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VOL. XXVII, No. 1 SEPTEMBER 1925

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TEACHERS COLLEGE RECORD

VOL. XXVII SEPTEMBER, 1925 NO. 1

CREATIVE ADMINISTRATION

BY GEORGE D. STRAYER

Professor of Education and Director, Division of Field Studies, Institute of Educational Research, Teachers College

A GREAT administrator in one of our best known professional schools has been responsible in no small degree for the notable contributions made by the members of his faculty. His name is infrequently attached to the scientific and professional studies known from one end of the country to the other which issue from the institution over which he presides; but without the freedom to work unhampered which he has provided, the inspiration which he has given, and the criticism which he has not spared, many of the contributions would never have been made. The work of this administrator has been as truly creative as has that of any research worker who has furnished, by his investigations, the basis for modifying the techniques of the profession represented by the institution which he administers.

A superintendent of schools in a middle western city was responsible for the development of a staff of assistant superintendents, principals, and teachers who set the pace in public education for the whole country during his administration. It was interesting to visit that school system and to discover the individuality of the separate units composing it. No two schools were alike, but in every case principals and teachers were investigating and experimenting. The superintendent of schools was vastly more concerned that teachers and principals do the work in which they were most interested and carry forward the program as they conceived it than that there should be uniformity of procedure. He was able to appreciate their endeavors even when he may have thought that he knew a better way. He brought them together for conference and discussion and they stimulated each other. His influ-

ence was felt not only among those who had the good fortune to work with him intimately, but also throughout his state and throughout the nation. His work as an administrator has borne fruit not only in the achievements of the members of his staff, but also in the lives of thousands of men and women who were fortunate enough to be enrolled in the schools under his supervision.

Administration does not consist in organizing a machine to grind out a fixed product. The able administrator is as apt to resent the necessity for spending his time and energy in securing support and providing the material equipment necessary for the work of the schools as is the most brilliant teacher on his staff. The administrator does his greatest work with persons. To secure the right individual for the work to be done and to stimulate that person to do his best work is the real job of the administrator.

It is true that good administration will require that schools be organized in such manner as to make possible the maximum of result in the experience of the children attending the schools. The administrator may not be blind to the issue of providing sufficient support to maintain the schools. If he is wise, he will anticipate the needs of the community and plan for the development of his school system over the years lying immediately ahead in terms of sites and buildings. But in the last analysis the most genuine satisfaction that comes to the administrator is found in the growth of those with whom he is associated.

No one would discount the importance of scientific knowledge as a basis for administering schools. The superintendent of schools who is to be most efficient must be conversant with the researches that have been carried on, the experiments that have been undertaken,—the results which have been secured by scientific workers in his field. But, however great his scientific knowledge may be and however thoroughgoing his command of the techniques which are used by successful administrators, his achievement will depend upon his ability to apply his knowledge and skill in coöperation with his immediate staff and with the principals and teachers throughout the school system. Efficient administration however adequately it may be based upon scientific knowledge can never be disassociated from the dynamic power of great leadership.

It has been my good fortune to know a number of men who have done creative work in administration. It is relatively easy to point out that it was the inspiration of their leadership which stimulated those

associated with them to greater accomplishment than that commonly found in our profession. It is not so easy to distinguish the methods which they employed to secure these results. Doubtless no analysis will completely account for the work of a great leader. It does seem worthwhile, however, to attempt to discover certain characteristics common to all of them.

I question whether any administrator has ever secured the best effort of his associates except as he has had faith in them. All of us respond to the person who is able to see merit in the work which we do and it not infrequently happens that we rise to heights that we had not ourselves thought possible because of the faith that someone else has in us. Appreciation of work already done is the foundation upon which the administrator must build his ideal structure. And appreciation must be genuine if it is to produce the desired result. Flattery never helped anyone to do better work. The administrator must have the insight to discover strength wherever it exists and to stimulate the growth of talent little suspected even by the individual possessing it.

In order to rise above our ordinary level of achievement most of us need to have presented for our consideration goals which we believe possible of attainment. The counsel of perfection may result in profound discouragement. The wise administrator is constantly setting before the individuals with whom he is associated goals which are not too remote. He proposes upon the basis of his appreciation of work already done and the strength of the individual the achievement which lies just beyond the ideal which the individual has set for himself. It requires rare good judgment to adjust these goals to the varying personalities and abilities of a large group of workers. For one nothing is too great to dare; while for another dark discouragement will result, if the goal is set beyond the achievement which may be thought to be simply the next step in development.

I have seen a superintendent of schools working with a group of principals and varying his suggestions of work to be accomplished and progress to be made among the members of the group even as they discuss their common problems. The range of activities which must be carried on in a school system reaching all the way from the care of the school plant to the development of a more adequate curriculum, provides an opportunity for utilizing whatever ability is present among members of the staff. It is important that everyone experience the satisfaction which comes from achievement.

The great administrator through constructive criticism helps his associates to overcome their inefficiencies. In no field is greater skill required or more of insight into human nature. The criticism which will stimulate one will discourage another even though the inefficiencies and ineptitudes be identical. The critic must not assume a too superior air, or he will be met with resentment from the individual whom he hopes to help. It is only as the administrator has the full confidence of his colleagues and only as they feel that the criticism offered is given with the confident expectation of greater achievement by the one criticized that it is acceptable. If the administrator and his colleague have a common ideal which they hope to realize, then they may speak frankly regarding anything that interferes with the realization of this purpose. Criticism never becomes impersonal on any other basis.

In any organization in which many people work the ordinary observer is apt to value only the outstanding achievements of those who occupy the places of greatest importance. The administrator, if he is to be successful, must see each person and each job to be done in relation to the whole undertaking. He must sincerely appreciate the work well done on each of the many levels upon which his associates might be classified. It is worthwhile to have the janitor in a school building doing the best job that he is able to conceive. His work and his satisfaction in it may have a most important bearing upon the achievement of the most skillful teacher in the building. An unhappy or discouraged worker in any part of the school system may limit in ways little suspected the progress hoped for on the part of the workers commonly considered more important. Every part of the work to be done is important and the real administrator is one who makes every one feel the worthwhileness of the part that he is playing in the whole scheme.

The one most important criterion by which to judge of the work of the administrator is found in the query, "Have those who have been associated with him grown?" It is not to be expected that all will have achieved great distinction, but the demand may well be made that all do better work and that all are ready to accept greater responsibility. In every large school system there are teachers, principals, and supervisors of unusual ability. Possibly the most severe test that we can put upon the work of the administrator is to ask in what degree these superior persons have realized their highest possibilities under his leadership.

In the last analysis the creative work of the administrator will be

measured by his devotion to the cause of public education. If his loyalty to this service controls his own activities, it will be felt in the lives of those with whom he is associated. If he has given himself willingly and wholeheartedly to a study of the meaning of education in our society, if he has paid the price exacted of those who are masters in the profession which he represents, then he may ask for a like consecration on the part of his colleagues. Great leadership is dependent upon professional scholarship, professional insight, and professional imagination, and these are granted only to one who values the cause that he serves above everything else in the world. The water rises no higher than its source. The administrator may hope to provoke in the lives and work of his colleagues no greater enthusiasm or idealism than that which controls his own.

I would not seek in exalting the work of the administrator to detract from the significance of the work of a great teacher or the contribution of a great investigator. Rather, I would call attention to the fact that the true administrator must be a most skillful teacher and that his researches deal with the emotions, the abilities, and the achievements of men and women. He must have the insight which will discover ability to achieve wherever it exists. He must be able to offer the criticism that will result in dissatisfaction with anything less than the maximum of attainment upon the part of those with whom he works. He must be able genuinely to appreciate the contribution that is made by every worker in the organization, and he must be able to make each of them feel the worthwhileness of the contribution that he makes. He must be actuated by the ideals which he would have prevail in the life and work of his colleagues. He truly is engaged in creative work because his influence has been a vital factor in promoting the growth of those with whom he is associated.

WHAT RANGE OF OBJECTIVES FOR PHYSICAL EDUCATION?

BY WILLIAM H. KILPATRICK
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WHAT range of aims shall the teacher of physical education consider? Two types of answer offer themselves. One that the physical educator should carefully distinguish and separate his work from that of other fields and should limit his objectives to this delimited field. Those who so think seem at times to claim that this is in keeping with scientific method and is therefore the only proper procedure for the educator.

An opposing answer is that no actual teacher should so limit his objectives, that no teacher of whatever field can justifiably limit his attention merely to the outcomes of his own field. More exactly, that the child is one; that during any pronouncedly physical activity period he responds not merely physically but also socially as well as in many other ways; and that the teacher in charge at any period is at least secondarily responsible for all learning outcomes arising during that period. This position may respect science as truly as does the other method but holds that the teacher is not primarily scientist nor his method primarily that of the laboratory. The scientist properly delimits his field on the principle of "divide and conquer." But the teacher's task and procedure must be different. He has the moral duty of considering all that is happening to the child. Which answer is right? Let us first consider our terms.

What do we mean by educational objectives? To most people the answer seems both clear and simple. But the situation is probably more complicated than these think. The term objective to indicate an aim is of rather recent origin, and seems to have come into ordinary use from the field of war. Thus in planning a battle the commanding general selects a series of strategic points as his objectives, reckoning that if these be successively gained he will win. In this sense objectives tend to be restricted to subordinate and nearer aims, the attainment of which will bring progress toward further and more inclusive aims. What then are educational objectives? They are the subordinate and nearer aims in education, especially those subordinate and nearer and more concrete aims which the director of the educative

process holds before him as he seeks to guide that process to success.

It is not the purpose of this paper to give an inclusive discussion of educational objectives, but rather to limit attention to the objectives as they are more usually understood. Still in order not to mislead, that is, not to seem to accept this more usual type as the only type of objectives, a word or two of preliminary explanation seems necessary. Consider any significant experience, say a country child's first visit to the city. Such an experience will modify, perhaps greatly, much of the child's subsequent experience. Many of his later reactions will be different because of the visit. When we would analyze this result we say such things as that the visit to the city has changed the child's outlook, it has taught him many things, it has given him new interests, etc. We sum up all of this result by saying he has learned much. We now have three parts in our analysis of this educative process: (A) the visit to the city (an educative experience), (B) various things learned in consequence (the educational outcomes), (C) the changed subsequent experience. Let us more fully consider B, the educational outcomes. These may be sorted out and listed under such heads as information and knowledge, skills and habits, ideals, attitudes, and appreciations. If we wish a common term for all these we may call them traits. Psychologically they are changes in S → R connections.

What objectives emerge from this analysis? How many distinct types? When we name health or the worthy use of leisure as objectives, we are speaking in terms of stage C, the better experience which we wish to result from education. When, however, we think of the information about the body and the health habits and attitudes, etc., necessary to be built if the child is to live a healthy life, then we are speaking of stage B, the specific outcomes, the traits to be built. Thus far the matter is clear: we have found two types of objectives. If this were all the analysis would hardly justify itself. It would all be too obvious. But suppose we ask about building proper health habits or building such attitudes as will result in the worthy use of leisure, or building truthfulness or an appreciation of good literature. Anyone who has faced actual teaching will know that these habits and attitudes are not learned in the same way as are spelling or the multiplication table. Rote memorization and formal practice drill are not available for these finer character traits. To be learned these must be lived. True enough the law of exercise holds here as elsewhere: always we learn only the responses we make. But such traits can be

truly exercised only in such actual life situations as call forth the responses; satisfactory learning in these finer matters will take place only as the child has readiness in and for the responses to be built. If then the school is to build these finer character traits, it must somehow bring it about that the child shall live the traits zestfully. Without this zestful living of the traits, this finer kind of trait will not be built. But how get the desired zest in such things? It will not come by a wave of the hand or as a result of pious wishes. No, it must be favorably conditioned and it will as a rule come only as it is gradually built up. Clearly then such living as includes and involves the desired zest must be consciously sought. This kind of living becomes then a clear instance of a third type of objectives, namely the stage A named above, the educative experience. It thus appears that each of the three stages in the educative process may and does properly furnish a distinctive type of educational objective. Each stage occupies a place in the unfolding drama of the life experience. Each is in turn properly set up as an objective in the educative process.

Thus to count the first stage, the educative experience, as a significant objective in the learning process is exactly the essence of the modern emphasis on method. Only on the basis of this emphasis may we hope to take adequate care of such traits as cannot be assigned for learning under penalty. The old school and the new split just here. The old school acted as if all desirable learning outcomes could be assigned and their learning exacted under penalty. The new school knows that this is not true and consciously acts accordingly. It sees that to get certain of the finer character traits a certain correlative type of educative experience (stage A as given above) is necessary. It accordingly sets up this type of educative experience as its *immediate objective.* Stage C, the resulting enriched experience, it holds as its *remoter objective,* while the traits (stage B), which are built in A and applied in C, it considers as *intermediate objectives.* The old school placed its emphasis on B, the desired traits, counting them (with C) the only types of educational objectives. The new school places its teaching emphasis on A, the educative experience, as practically the most important type of educational objective.

While the new school gives its greatest emphasis to this newly conceived type of objective it does not propose to ignore the older types of objectives. This paper is in fact an effort to show certain of the ways in which these older objectives may be usefully employed.

We may now return to the opening inquiry: What is the proper range of objectives for physical education? Shall they be limited to such matters as health and exclude all consideration of such matters as morals? So stated we are dealing in terms of traits and their use, the older types of objectives. As the inquiry is primarily one of remoter aims, we may largely ignore learning conditions and so in the main leave unconsidered the new type of objectives. Only we must so discuss and so use the older that all due value and use may be granted the new.

Shall the (remoter and intermediate) objectives of physical educators be limited to the welfare of the physical body? The answer here returned is no. No one who believes that the proper unit of instruction is a fair sample of life (as the child counts life) could consistently wish so to limit his attention. But whatever difference of opinion may exist as to taking actual life experiences as the proper basis of instruction, it is difficult to see how there can be a difference of opinion on the main thesis here upheld. The physical educator in actual charge of children is responsible for more than bodily welfare and is accordingly morally bound to seek more than mere physical welfare objectives. His secondary attention at least must be given to objectives lying outside the distinctive field of physical education. Why?

In the first place a child is a unity—at least in the making. Any significant act of the child will involve a host of interconnected responses. A proper aim in life and education is that all one's responses be so organized as to be capable of acting together as a coöperative whole should the need arise. No proper education will ignore this consideration. From this it follows that a division of labor in teaching is, whatever else may be said about it, fraught with possibilities of danger. All the teachers concerned with any one child should coöperate to secure the unity of character thus needed.

This fact of many simultaneous responses demands closer consideration. From the psychological point of view a child's responses are various and so interconnected that it is never possible for them to fall for any length of time under just one subject-matter heading. It thus follows that a complete division of labor among teachers is absolutely impossible. *No child* during any appreciable period *ever learns just one thing*. Take an illustration from ordinary school, say a child memorizing a poem. Along how many lines does the child learn during the twenty minutes given to this one exercise? The list is long.

(i) He is sitting in a certain bodily posture; this twenty minutes helps to fix his habits and attitude in this regard. (ii) Similarly he holds his book before his eyes in a certain way. For good or ill he is building habits that affect his eyesight. (iii) He practices a certain behavior with reference to the other children, he may encourage them by nods and winks to think of other things than the poem or he may so attend to his book as to encourage others likewise to the task at hand. In either event he is building social habits and attitudes of some kind. (iv) He learns the poem. He can in some degree repeat it. (v) He builds or modifies an attitude of appreciation toward this poem, and (vi) toward poetry in general. (vii) His attitude toward the teacher is practiced during this twenty minutes, he may be changing a previously built attitude of opposition or he may be becoming more set in this attitude. So also with (viii) his attitude toward his education, whether to continue in school beyond the legal requirement or to stop as soon as parents and law allow. Nor is this yet the whole story. In and through it all he is building (ix) a certain attitude of self-respect in matters of the mind, either to feel that "It's no use, I can't do anything with books," or the reverse. For social purposes perhaps most important is (x) the further attitude he is building toward authority and his coöperation therewith. Is this whole matter of law and order merely the control of the strong over the weak, a tyranny to be circumvented whenever possible, or is it a matter of common concern to all in which he as one has a true interest? Under all such heads and more is learning going on during any one period and all the time. And note that *this simultaneous learning is inevitable.* The teacher may ignore it, but it goes on just the same. Learning outcomes are never single or simple.

What is the consequent duty of the teacher in the face of these many and varied simultaneous learnings? As the person in responsible charge at the time the teacher is responsible for all these learning outcomes just so far as they can be foreseen and controlled. The teacher under consideration may be especially charged with teaching physical education or English or history, but he cannot ignore the child's welfare under other heads. His primary duty is physical education or English or history, as the case may be, but he has at least secondary duties to history, to health, to morals, to all significant learnings that are going on or *might properly go on* while he is there. Division of labor among teachers brings with it then a mutual responsibility for

each to help the other teachers and above all to help the child along all significant lines. Most impelling perhaps of all is this duty of coöperation along lines that cannot be given to the special care of any one teacher. Morals, for instance, is so bound up with all life as to be a universal teaching duty. In such matters it is no satisfactory reply for any teacher to say, "I have my work and I propose to attend to it." The traits are too closely bound together to be successfully separated and apportioned. Each teacher has, as has already been said, his primary duty to his special work, but he is at least secondarily bound to consider all other lines along which the child is simultaneously learning. The unity of the child demands team-play among teachers.

The question thus propounded at the outset has been answered. Physical education may by abstraction accept for its especial study the strictly physical education ends as its specialized objectives, but such objectives are not the concern of physical education exclusively nor do they constitute its sole concern. The physical welfare must be a moral concern to all the child's teachers, just as the physical education teacher must morally consider the child's total welfare as this is helped or hindered by all that does or could properly go on during the physical education periods.

It may help the discussion to present an arbitrary table of remoter and intermediate objectives as the main desirable lines of growth in life, and then ask under what heads a child principally learns while he is ostensibly working in physical education. Such a table to be manageable must be schematic. A conspectus is what is here mainly desirable. Different individuals would naturally differ both in the items selected for mention and in their grouping. The effort is here made to make an inclusive hierarchical arrangement, putting together under each grand division items that are (approximately) mutually exclusive. The informed reader will have little difficulty in seeing that the table provides a place into which to fit the more detailed lists and derivation of objectives being currently made by other writers in the field. It will be obvious that the items in III enter each as a constituent in each of the items in I and II, while the items of II similarly enter each as a constituent in I. If such a listing were perfectly done, every item would demand to be cared for in any proposed curriculum or the deviation justified, and similarly no item in the perfect table would be allowed, without like justification, to hurt the attainment of other items. This table (page 12) is far from perfect, still though faulty it may properly raise suggestive questions.

A Proposed Table of Remoter and Intermediate Objectives:

I. Divisions within the Full Life
   1. Vocation
   2. Citizenship
   3. Family relationship
   4. Leisure time

II. Constituents of the Good Life
   1. Health
   2. Morals
   3. Breadth of view
   4. Scientific outlook
   5. Aesthetic appreciation

III. Traits
   1. Habits and skills
   2. Information and knowledge
   3. Attitudes and appreciations

Our immediate task, however, is not the criticism of a total curriculum but rather to ask what range of objectives properly concern physical education. The general answer has already been given: the actual teacher of physical education is concerned with all the effects which directly *and indirectly* flow naturally and properly from physical education activities.[1] Our immediate task is to locate these effects on the table just presented and to get from such a consideration the lessons that naturally follow.

What are the resulting suggestions? Consider group II. Granted that health is the primary concern of the physical educator, what about morals and the other named constituents of the good life? How should the teacher keep before him objectives in these fields? From the point of view of morals and breadth of view combined (how artificial do division lines become when we really face life!) each child must so build himself that he takes continually a wider and more unified view of life and molds his actual habits and attitudes accordingly. Each game, each athletic contest, becomes then an opportunity and obligation for growth along these lines. "But," says the nearsighted coach, "I must get out a winning team. I haven't the time for building life attitudes, nor the requisite skill for that matter. Besides the boys won't stand for it, nor the public. Just think what the newspapers would say if I preached to the boys instead of teaching them

[1] The law holds each person responsible for all the foreseeable by-products that naturally flow from his intended acts. This is but the legal formulation and use of the doctrine here recognized as morally binding on teachers.

football!" We must not be too hard on the coach, considering the existing contradictory demands that confront him. The boys and too often their fathers and the newspapers, *as they now are,* are at times so interested in having a winning team that they are willing to shut their eyes to all else. And "preaching," of course, is no way to meet the wider demands of the situation. But who can question that in many quarters inter-school contests with their consequent over-emphasis on a winning team are warping the moral outlook of many? How many colleges are sacrificing their very souls on this altar of athletic success? How many faculties are sick at heart at the hindering interferences of alumni who hold to such ideals? How rapidly our healthy growing boys can and should be expected to progress toward the necessary ideals is a matter not here to be decided, but surely we have a right to demand of the athletic coach that at least they make progress in the right direction. It is not a question of preaching versus teaching football; it is a question of living. For the coach it is a question of so teaching football as to build up its proper ideals.

And the like consideration holds all along the line. As we think of the matter of health itself, what kind of bodily health do we wish? Clearly the kind that fits in with all the other parts and aspects of life to make the aggregate the best possible. Moreover, health gets its definition not merely from the body considered alone but as health relates itself to all of life considered together. From considerations already urged, if life is to be best lived, outlook and attitudes regarding health along with its techniques of control must then be increasingly built in accordance with this whole life view. And each health period as well as each game and each dance must contribute its part, small or large, to such a growing connection. But can we get teachers of physical education able to meet such high demands? Possibly not, indeed certainly not if perfection (whatever that may mean) is demanded, but the considerations urged hold just the same. In the degree that we fail for whatever cause, the results on life will be hurtful.

Consider next physical education and science. When we consider the ease with which health frauds and medical fakers flourish in America we need be in no doubt that science has never "sold" itself to the American public. So long as serious-minded and otherwise sensible people can "knock on wood," avoid Fridays and 13, or question that microörganisms exist and affect health, just so long must we admit that science has not been taught to our people. Some of our pupils

take "naturally" to science as it is now taught and easily make it over into their outlook on life, but the larger number probably need a less technical and more concrete introduction to scientific outlook and attitude.* The body and its proper functioning seems to lend itself well to this demand. Parents and the public are easily interested in disease and its cause. When Collings's children studied typhoid fever the number of parents stricken with communicable diseases appreciably decreased.[2] It is easy to believe that if the opportunities facing physical education along the line of science be adequately realized we shall build better attitudes toward science and the use of science. Space forbids a detailed discussion of all the constituents of the good life, while a bare word must suffice for the traits. As soon as we face life we see that mere knowledge does not suffice. Here the older school failed. Appreciations are indispensable, as are habits and attitudes. The educator must care for all.

Among the four divisions assigned to the full life, leisure time is most directly influenced by physical education. As our country becomes more industrial and more urban there is increasing need to care for the leisure part of the day and of the year. Physical education cannot do all, but its part is very great and probably increasing. Participation in games, hikes, camping—these are some of the lines of possibility. In each of these there is demand that attention be given to many items in the table. Health, of course, is most obvious, but morals form a close second, with breadth of view and scientific outlook occupying a real place. Family relationship enters also. Along all these many lines physical education has a real contribution to make.

The final conclusion seems thus warranted that the teacher of physical education cannot morally limit his attention merely to bodily welfare. He cannot, if he would, direct the attention of his pupils in his own field without having them respond in ways that concern other fields. He cannot as an intelligent and moral agent responsible for the welfare of his pupils ignore the effect of these correlated responses. Team play with the other teachers is demanded as part of his duty to his pupils. His remoter objectives must include all the lines of response made by his pupils while he is in charge.

[2] Collings, *An Experiment with a Project Curriculum* (Macmillan 1923), pp. 54-64, 277.

THE NURSE IN THE NORMAL SCHOOL

BY ISABEL M. STEWART
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AND LUCY BRINKERHOFF
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IT takes a very alert person to follow the nurse into all the new paths and by-ways which are opening up in her field to-day. The recent developments in normal schools furnish an interesting example of the changes which are taking place in the whole scope and character of the nurse's work. They are significant also as an indication of the newer conception of health work growing up in many of our educational institutions.

There seems to be no way of finding out how long nurses have been at work in normal schools, but we know that the number of nurses so engaged has been small and until the past few years their main function has been to care for sick students in the dormitory or infirmary connected with the school. Seven or eight years ago, during the war, we first began to have requests for a new kind of normal school nurse and though this demand is not as yet very large, it is so definite and insistent that we have felt it important to find just what lies back of it and what are the prospects for future development in this field.

We have been able to find very little literature on the subject in either educational or nursing publications. It is doubtful, indeed, whether many nurses know of the interesting possibilities in this new branch of their work. It was with the idea of exploring these possibilities that this study was undertaken, and also with the idea of finding out more about the actual duties of the preparation required for such workers.

The questionnaire method was followed in the study, one list of questions going to the head of the normal school and one somewhat similar to the nurse. Copies of each were sent to eighty-five normal schools where the catalog seemed to indicate any kind of active health service. Answers were received from seventy-nine schools—a rather unusual response. Very few of the answers were perfunctory and many showed a great deal of interest and thought. The whole question seems to be a live one in normal schools to-day. Several letters were received from principals stating that no nurse was employed

because of lack of funds, but in almost all of these cases the need was plainly recognized and plans were being made for such an appointment as soon as possible. Forty-two normal schools and colleges reported employing one or more nurses each. This number is about twenty-five per cent of the recognized professional schools for teachers in the country. According to the returns, the distribution of these schools is fairly even for East, South and West, except in the case of Pennsylvania where we find seven normal schools employing nurses. The Middle West seems a little below the average for the rest of the country.

WHAT NURSES IN NORMAL SCHOOLS ARE DOING

It is evident that we have to consider two distinct groups of students in normal school work. First, there are those who are preparing to become teachers, who need some health advice and supervision and, if they are in residence, nursing care in case of illness. Then, in the practice school connected with the normal school, the children need to have the same kind of health service that is given by the school nurse in the regular school system. The duties of nurses, as outlined below, cover both of these groups, as a rule, except as to nursing care in illness. The list indicates the kinds of duties which nurses are carrying in these forty-two normal schools and the numbers show how large a proportion of the schools include each of these duties in the work of their nurses.

Types of Work Mentioned	*No. of Schools Reporting*
Health Advice	36
First-Aid and Office Work	34
Infirmary Duty (Care of Sick Students)	30
Health Supervision	28
Assistance in Making Health Examinations	26
Sanitary Supervision of Dormitory or Class Rooms	23
Keeping of Health Records	23
Teaching	20

From the above, one may see what the nurses as a group are doing, and what would be expected of a nurse asked to fill such a position. The outline, however, does not give an entirely clear idea of the combination of the duties in separate instances or of the various forms these may take under different conditions.

It may be well to outline a little more fully the kinds of duties which come under each of these heads.

Health Advice. From the reports, it would seem that the nurse considers this a very important and satisfactory part of her work. In many cases the student sees the nurse by individual appointment, following routine inspection or attendance during illness. A number state that advice is informal and incidental to other contacts in health service, such as the giving of first-aid and the formal classroom instruction in hygiene. In one normal school, weekly attendance at the nurse's office is required of every student. Here they meet in informal groups for advice and consultation. In another school the girls are required to visit the nurse's office for periodic individual conferences.

First-Aid and Office Work. Wherever there is a practice school under normal school supervision, the nurse is responsible for first-aid service to the children as well as to the students. The office work includes assisting the physician in this and other medical work. Where the medical service is in charge of outside physicians, the nurse will have greater responsibility in first-aid service. It is interesting to note that first-aid and office work are mentioned by almost all principals as being of greatest benefit to the school in general.

Infirmary Work. Where the infirmary work forms a regular part of the school nurse's service, her health work in other lines appears to be limited. Where infirmary work is listed as a duty in addition to a number of other forms of health service, it is usually stated that an extra nurse is called in for serious illness or in case of epidemics. Here the school nurse, as a rule, has general supervision of the sick students, but does not do the actual bedside nursing.

Health Supervision. This involves responsibility for the health of the school as a whole. Where there is a practice school, the health of the children is also under the nurse's supervision. The following duties are specially mentioned: (1) Visiting students who are reported absent because of illness and reporting the same to the physician; (2) doing follow-up work with students after illness or for corrective work after physical examination; (3) excluding suspicious cases from the practice school; and (4) passing on all re-admissions after illness. It is significant that in a number of cases the nurse or principal recommends a sound knowledge of contagious diseases as essential in normal school work. One nurse has organized a milk clinic in the practice school, and holds health clinics for the school children. Another activ-

ity mentioned several times is coöperation with the school dietitian in regard to the nutrition problems of students. In a number of schools the nurse is one of the faculty committee on health, and in three is chairman of this committee.

Assistance in Making Health Examinations. Practically all of the schools employing a nurse report physical examinations as a part of their health program. In most cases the examination is given only at the beginning of the school year. In some it is given every term, and in one instance every month. The nurse is always on hand to assist and, in some cases she seems to be responsible for, the routine physical examinations. In one school, the doctor is reported as examining the men students; the nurse, the women. Where there is a practice school, the nurse's work is similar to that of the regular public school nurse. In one case vaccinations are reported, in another routine eye and ear examinations.

Sanitary Supervision of Dormitory or Classrooms. The nurse's responsibility here seems to be of two kinds. The first is a purely advisory function and is not emphasized by either nurses or principals as being of major importance, though a number do mention the nurse's supervision of sanitary conditions in the practice school as being a distinct contribution to the health of the school. In some other normal schools the nurse seems to be expected to undertake certain of the housekeeper's responsibilities for cleanliness in the dormitories, for example, the supervision of servants who do the work and, in certain instances, such matters as plumbing.

Keeping of Health Records. In some instances, the nurse simply cares for the clinical charts of those who are ill in the infirmary; in other cases, the nurse takes the records during the physical examinations; in still others, she keeps records of re-admissions and follow-up visits. In the practice school her records appear to be similar to those of the public school nurse.

Teaching. Where the nurse does formal classroom teaching the subjects usually mentioned are home nursing and personal hygiene. A few nurses are giving instruction in physiology, first-aid, methods of teaching health, and school health and sanitation. It appears that the nurses who are doing this type of teaching are giving the greater part of their time to classroom work and general health supervision and little or no time to infirmary or dormitory work. It may be emphasized that all nurses and principals who write regarding such positions

recommend training in classroom teaching and in special subjects related to the health problems of the students and school children.

As stated before, these duties are not all required in all positions. A great deal depends upon the size and type of the normal school and on the standards of health work which have been established. In order to get a picture of the different types of positions, a selection has been made of four nurses now at work in normal schools who may each be regarded as typical of a whole group.

A STUDY OF FOUR GROUPS

Group I. The first case chosen for study is that of a nurse in a small normal school in the Middle West. No teaching is required of her. She has charge of the staff of servants in the student home, is responsible for cleanliness and other sanitary conditions there, and has charge of the sick students (usually minor illnesses) in the home under the direct supervision of a resident woman physician. When the physician is away, she is on call for first-aid and emergency work. All physical examinations are made by the resident physician, and all health records are kept by her. The children of the practice school are in charge of the county nurse. The nurse in this normal school is responsible only to the physician. She lives in the dormitory and is on call at all times. Her salary is ninety dollars a month, with maintenance, and two weeks are allowed annually for vacation. In answer to the question: "Do you consider the full nurses' training necessary for your work?" she replied: "No, any first-rate housekeeper could do this work." The reason for this answer is found in the type of work required of a nurse under such an organization. It will be noted that the scope of her work is very limited and she has little opportunity to exercise initiative apart from the chance emergency in the absence of the resident physician and the routine nursing of the students as occasion arises. Since there is little acute illness, this does not call upon her professional skill or interest to any great extent. This nurse does not complain of her position, but she does recommend more academic training for the normal school nurse in order that she may secure a recognized status and broaden the scope of her work.

The number of nurses in this group is (apparently) small, but the point of view is characteristic of a certain number of smaller normal schools. Their students are evidently cared for in illness, but positive health work does not seem to be provided for.

Group II. A second type of position is found in a normal school in one of the South Atlantic states. The nurse, who may be called Miss B., does some classroom teaching in home nursing and in infant care. She has charge of sick students in the infirmary under the care of a local physician, and also visits girls confined to their rooms by illness. No organized, constructive health work is done in this normal school. Miss B. is responsible only to the president, and has no official relations with other departments. Her hours are given as "twenty, on call." She has the regular school vacations, and lives in a room adjoining the infirmary. Her annual salary is seventeen hundred dollars a year, without maintenance.

Miss B. states that, in her opinion, full hospital training is necessary, and advises special study of physiology and advanced nursing subjects. This nurse is evidently conscious of the need for constructive health work, even though it does not seem to be included in her duties. She says: "The close contact with the students makes it possible to give them, at a time most needed, information helpful to themselves and their pupils. I find that the girls are glad to have someone to whom they can go for help in this direction."

This case is typical of a large group, whose chief function is infirmary and office work. The nurse's field is wider than in the first group and more responsibility rests upon her. She does only professional work, but it is curative almost entirely and not as yet definitely educational or preventive.

Group III. This group represents the newer idea which is familiar to those who are in touch with the work of the good school nurse or the public health nurse. The following case is representative of this group. Miss M. is located in a western normal school of average size. She conducts classes in personal hygiene for the teachers-in-training, and assists the director of health in planning his practical work. She gives individual advice to students and children and has charge of first-aid work for both as well as the physical examinations. The girls are required to call regularly at her office for consultation. Follow-up work for them and for the children is a part of her regular program, and she must pass on all re-admissions after illness. She conducts health clinics twice daily. While officially responsible to the head of the physical training group, she also holds conferences with the principal of the practice school, the dean of women, and the dietitian. Her hours are stated as "regular"; she is allowed seven weeks'

vacation annually and receives a yearly salary of seventeen hundred dollars with maintenance. The infirmary, a suite of rooms with bath, furnishes her living quarters.

In this instance, the report is made by the normal school principal. One can easily see that Miss M. finds no great amount of leisure for filling out questionnaires. His final comment is as follows: "I believe that full hospital training is necessary for such a position as this, and advise preparatory work in social service or public health work. There is a field for such people properly trained. Our nurse was trained in the University of ———, and is very satisfactory."

One notes here that the work tends toward specialization on the side of social service and school nursing. It appears from the letters that the situation on the whole is satisfactory in results to both the principal and the nurse. One complaint is common in all of this group—the work is too heavy. One large, well-endowed institution of the Middle West has solved the problem by employing four nurses (two on part-time duty) instead of one. Their activities are, respectively, general supervision, infirmary care, office and first-aid work, and school nursing.

This third group is the largest of all, though the preceding one ranks a close second in numbers. It may be noted that at present the third group carries all the work of the second except the care of students seriously ill, but the emphasis is changing from the purely curative and remedial to the preventive and educational phases of nursing work.

Group IV. The fourth group is small in number (about the same as the first one described) and, therefore, not entirely typical of normal school nursing at present. The group may be represented by Miss D. Academic teaching forms the main part of her program, but her work, while complex, is so well organized that it appears not to be burdensome. Miss D. is teaching normal courses in community hygiene, physiology, personal hygiene, and methods of health training. In addition to this major duty, two hours are given daily for general consultation with students, and another half-hour for children. Two hours weekly are allowed for individual appointments. Miss D. advises on both dormitory and school sanitation and oversees the infirmary care of both students and children who are ill. In serious illness, a special nurse is engaged. She assists the physician (presumably a visiting physician) in physical examinations and in first-aid and office

work, but it is stated that very little time is given to these duties. This nurse conducts daily milk clinics and weekly nutritional clinics for the school children. She is the official head of the school health organization. Her hours on duty are limited to six daily. She has the regular school vacations and lives in her own home and her salary is twenty-four hundred dollars per year. In passing, it may be noted that in regard to the other groups no definite correlation was found as to special types of service or preparation. On the other hand, every member of this last group is well paid. In every case, also, the conditions of living seem very favorable. The results of the work seem in all cases to be highly satisfactory. The common complaint again is that the field is too large.

In the case chosen to represent this group both principal and nurse have replied to the questionnaire. The principal's comment is: "Our nurse is good in every line of her work. Nurses should be made acquainted with this opportunity for promoting public health." The nurse says: "The work is vitally interesting, because constructive, but nurses should be urged to get as much academic training as possible to meet the situation." All others in the group speak in a similar way of the usefulness and interest of this work.

In Groups II, III and IV, a number of nurses are giving courses in home nursing and child care, and some are giving selected normal students a course in elementary practical nursing in the infirmary.

CONCLUSIONS REGARDING THESE FOUR TYPES OF WORK

We find that though the activities vary somewhat in individual cases, practically every case falls definitely into one of the groups indicated above. Of the matron-nurse, we must conclude that the work tends to be mostly non-professional. The possibilities for growth and progress are extremely limited in such a position. The nurse has little opportunity to use her special knowledge, or to initiate health work of a systematic, constructive type. It will be difficult to attract ambitious and capable nurses to this kind of position. The normal school nurse in the infirmary and doctor's office has work which is truly professional, though it is mainly confined to clinical nursing. It requires technical proficiency and would appeal to a wider group of nurses who have had experience in hospital and private work, but these fields generally offer greater scope and better financial returns than the normal school of this type.

The nurse working with both the students and the practice school children, and coöperating with the members of the health department and the education department, finds a field crowded with interest. Here there would seem to be possibilities for sustained satisfaction and for continued growth. The greatest difficulty in this position will be to find the time and facilities for what the nurse will desire to do. Nurses will usually be recruited for such positions from the ranks of school nurses and also from the general field of public health nursing.

The instructor-nurse, specializing in health instruction, tends to move away from purely nursing duties and to become one of the regular members of the teaching staff. Her nursing background will always be a great asset, however, and may be quite essential as, for instance, in the teaching of home nursing to normal school students. Such positions will appeal most strongly to the college or normal school graduate who has been a school teacher before taking the nurse's training and who still has a keen interest in the general field of education. It seems to be almost unanimously agreed that full hospital training is necessary for this work. Where any other opinion is expressed it is found that the duties assigned to the nurse are not really nursing duties.

Training in teaching is emphasized by all principals where this work forms a major part of the program. In addition to this there is found to be a very general feeling that a college course or its equivalent is most desirable for the nurse working among normal school students. For the positive health program, such as has been described in the third of the cases discussed, almost all recommend experience or training in public health or social service work. Mental hygiene is mentioned by a somewhat smaller number. A few stress the desirability of a knowledge of medicine itself. This recommendation comes from schools where the nurse appears to carry the entire health organization alone. There is danger here of pushing the nurse into strictly medical duties for which she has not the special preparation. Three principals of normal schools state that the personality of the nurse is more important than any special training she may possess. Others mention sympathy and ability to adapt herself to normal school life as essential.

It is evident that a rather high standard of education and intelligence is needed for this work and that the normal school nurse must possess all those graces and gifts of personality and those standards of

professional efficiency which are so frequently specified in recruiting candidates for other fields. In addition she would surely need some special training which would include much of what goes into the preparation of the school nurse, with special emphasis on teaching health subjects and on the general principles and methods of normal school work.

The material for such preparation is available in Teachers College and in some other schools of education, and a few nurses have already completed definite courses of study in preparation for normal school work. There seems to be no reason why further opportunities should not be opened up, if those interested in nursing education and normal school work feel that such a definite preparation is needed.

THE FUTURE OF THE NURSE'S WORK IN THE NORMAL SCHOOL

The number of these positions will probably never be large, even though all of the normal schools in the country should decide to employ nurses. The need is a real one, however, and it seems inevitable that the number will grow, especially since practically all of the principals replying to the questionnaire state that they are highly satisfied with the service given by the nurses in their schools. This is true in part, of course, because of creditable work on the part of the pioneer nurses in the field, but it is more especially true because the nurse is meeting a fundamental need which no other worker is equipped to meet.

There is every indication that the work is expanding wherever the nurse is given an opportunity to develop a real health service. There is also evidence of the inevitable tendency toward specialization within the field. Such statements as these appear in every letter: "We need another nurse." "We could do more with two nurses than one." "We should like to divide the work into two parts, one for well and one for sick students." "We are trying to relieve the nurse of clerical work so that she can devote more time to health work." "We need a special nurse for follow-up work." "Her hours are too long. We should like to give her more time for personal work among the students." "There are too many demands on my time." Though these comments show too heavy pressure on individual nurses, they are favorable signs both for the permanence of the work and for its future growth.

Two quotations from principals of normal schools of the Far West

are as follows: "This is the most important teaching position in the school when done with vision and purpose." "If the normal schools really organize effective health education programs, specially trained nurses will be essential to the success of such programs."

It has been suggested by one leader in normal school work that the nurse's service should be extended further to include the members of the faculty, especially unmarried women who often find it difficult to secure proper care in illness. The opportunity for medical consultation and the general health service should also be made available for faculty members, as it is in many colleges.

CONCLUSIONS

1. Nurses are making a valuable contribution to the health work of many normal schools and the demand for their services is increasing.

2. Where the nurse is herself well qualified for her work and where she is given an opportunity to develop a modern health program, the results are much more satisfactory than where the nurse's work is limited to the care of sick students only.

3. Increased provision should be made in budgets of normal schools so that adequate salaries can be paid to secure well-qualified nurses and to provide more assistance for the nurses who are now carrying too heavy programs of work.

4. Nurses need to be specially selected for this work and should have, in addition to their fundamental nursing preparation, a good background of general education and advanced training and experience along social, preventive and teaching lines. A college degree is not essential, but it is desirable.

INDUSTRIAL ARTS IN JUNIOR HIGH SCHOOL: CERTAIN POSTULATES AND HYPOTHESES

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CERTAIN POSTULATES

AS used here, industrial arts does not include any ordinary topics from the household arts, gardening, commercial work, or the professions. It does include all kinds of units of manipulative work that may be adapted to boys from 12 to 15 years of age, from the building trades, furniture-making, printing, pottery work, book-binding, various forms of hand and machine work with metals (forging, casting, turning, drilling, etc.), photography, painting, varnishing, leather work, tailoring, shoe-making, various forms of textile production, and all others commonly thought of as associated with industrial pursuits (trade and manufacturing).

2. In every well-arranged curriculum or course in education there should be a primary purpose—and only one. A primary purpose is that with reference to which materials and methods of instruction are chiefly organized.

In every curriculum or course there may also be one or more secondary, incidental, or ancillary purposes. These are expected to be realized as by-products, incidental to the achievement of the primary purpose. These secondary purposes do not determine, except incidentally, objectives, or choice of materials and methods.

3. There are at least eight fairly distinguishable purposes that might be realized through industrial arts projects and related intellectual studies by boys from 12 to 15 years of age.

These are:

a. The training of "hand and eye" (formal discipline)
b. Definite training towards a future vocation (Prevocational training)
c. Assistance in vocation finding (guidance)
d. Utilizers appreciations
e. Development of "handyman" and avocational interests, skills, and appreciations

f. Development of economic and other appreciations of major fields of the world's work—Civic values

g. Centers of correlation for studies intrinsically abstract

h. Provision of opportunities for developmental experience

4. Any one of the foregoing may be made a primary purpose in shop work in junior high school. Any number of the foregoing may be looked upon as possible incidental purposes to some one primary purpose. But the choice of a primary purpose must have a very great effect, in fact a determining effect, upon choice of projects, standards of achievement required, amounts and kinds of related reading, and time to be given to the particular work.

5. There can be no general, simple formula found which is expressive of all of the values which should be realized through industrial arts. For example:

a. It seems probable to many that for certain case-groups of city boys the aim of developmental experience should be paramount. On the other hand, it seems very doubtful whether, in shops serving boys from farms, there is any particular need of emphasizing developmental experience as a purpose.

b. In every junior high school there is a class of boys (herein referred to as case-group AM) who combine superior intelligence with superior home environments. All of our experience is convincing that practically none of these boys will enter manual trades or factory pursuits of a manipulative nature. On the other hand, it is the experience of teachers that large proportions of these boys take to industrial arts work with much avidity, especially if they derive from highly urbanized environments.

c. The purpose of utilizers appreciations is one that might be realized in considerable degree from industrial arts work with cabinet-making, pottery work, painting, bookbinding, and photography. It is doubtful if such fields as printing, electrical work, and machine shop practice can be made to contribute usefully to these ends.

6. There was a time when a large majority of boys and girls were gradually inducted into their vocations through helpful participations reaching down even to the very tender years of childhood. All present tendencies are in the direction of withdrawing opportunities for these early childish participations, and of postponing to some fairly mature

periods, their entry upon vocations, or entry upon specific training for vocations. In view of these tendencies, it is probably a waste of time to have persons under 15 or 16 years of age undertake either vocational courses or other courses whose values are expected to be primarily prevocational (that is, the functioning of which is of only slight significance apart from use in later vocations).

7. No educator now gives serious weight to training of "hand and eye" as a primary purpose in industrial arts (in the sense, that is, of vicarious mental or manual discipline).

8. Under what circumstances vocational guidance objectives should determine industrial arts offerings depends upon the results of study of particular case-groups and particular types of industrial arts. In a typical seventh or eighth grade, drawing from all sections of a population, possibly one per cent of the boys can and will become printers; one hundredth of one per cent photographers; and two or three per cent machine shop operatives with metals. Some 10 or 15 per cent will enter the professions or commercial pursuits. Under these circumstances, it is probable that guidance objectives can only be made functional within very specific areas of case-groups and with only certain few kinds of shop work.

9. It is generally believed that utilizers appreciations can, to some extent, be realized through cabinet-making (for prospective builders of houses or buyers of furniture), through textiles, through leather goods, and the like. It is not yet clear by what means and methods the organization of, for example, pottery offerings should proceed if utilizers appreciations in this field are to be considered a primary objective for any given case-group.

10. It is quite possible that prevocational and "handyman" objectives should dominate in industrial arts for rural boys. Good arguments can be made out for dominance of "handyman" in a few objectives for boys environed by village surroundings. In the case of urban and suburban boys, the situation seems much more doubtful. However, there are doubtless lines along which this major objective should be developed. For example, in connection with households, motorcars, and a variety of household machinery, "handyman" skills and insights often have a distinctly functional value. "Handyman" possibilities in wood-working (including metal factors in wood implements, and painting and varnishing) seem omnipresent in rural environments, frequent in village environments, and probably obsoles-

cent in urban environments. Again, it may prove valuable to differentiate case-groups in this connection. If we distinguish as case-group AM those boys who are peculiarly favored in intelligence and environment, and as case-group BN those who are the reverse, it may seem expedient to make much more of "handyman" objectives for the former case-group (towards urban settings) and of such subjects as drawing, electrical work, gas-engine work, and the like for the second case-group. For the second group tailoring objectives might also have considerable value and none for the first.

11. Social insights, and especially those of an economic nature, are undoubtedly going to play a very large part in the school civic education of the future. These can be derived variously. Reading and moving pictures will certainly prove to be sources of major importance. With better development of means of school visiting, it may be that visits to various kinds of enterprises may prove a valuable means as well. It seems probable that the development of social insights from the relatively small and fragmentary manipulative operation of school shops will prove illusory, except possibly as a suggestive starting point for readings, and for interpretations of moving picture.

12. It is doubtful whether the purpose of using industrial arts as centers of correlation for more abstract studies can amount to much in the case of children from twelve to fifteen years of age. Thus far it has proved almost functionless in connection with the most abstract of school studies—arithmetic, and the one field in which such correlations ought to prove most practicable (it is here assumed that manipulative drawing is not a generally required junior high school subject and that its objectives are governed by the same consideration as apply, for example, to wood-working.)

13. Every observer is aware that growing boys are keenly interested in the use of tools. To some extent this interest seems almost instinctive, as in the ordinary forms of stone-throwing, manipulation of sticks, digging into soil, the control of water, the building of fires, and others. To a large extent, however, these tendencies are conditioned by environmental suggestions so that machine dissembly, machine operation, the use of cutting tools, type setting, electrical manipulation, and the like, are everywhere sought. Under farm conditions a variety of outlets usually exist for the exercise of these quasi-instinctive tendencies. Urban environment tends to constrict, if not greatly to restrict, expression of these tendencies.

There is every evidence that predispositions to use tools parallel in importance in the development of youth of these other predispositions to indulge in physical sports, to explore environments, to build up social groups, and to satisfy a large variety of curiosities. All of these are well recognized as phases of natural growth, and, although the fact is not yet capable of demonstration, it is fairly certain that deprivation of reasonable opportunities for exercise of any of these varities of experience-getting leads to some kind of distortion of growing body, mind, or spirit.

The term "developmental experience" is here applied as designating this kind of education. We can say that sports in their field, travel in its field, the building up of community groups in that field, the satisfactions of curiosities through books and pictures and experimentation where these are effective, and the endless forms of inquisitive findings that growing children indulge in through play and the imitative use of tools in that field, all contribute phases of developmental experience and that all are ways of fairly fundamental importance in making out of plastic youthful organisms the broadly experienced men and women that we desire.

It is well known, of course, that predispositions or instincts to use tools begin very early and seem to culminate in the craftsman activities. They begin in the purposeless play with implements at two or three years of age and proceed through certain fairly well defined stages. The stage for most boys between twelve and fifteen years of age possesses some definite characteristics. Here the use of tools of a purely "toy-like" nature often becomes obnoxious. Here the desire is often to use tools that function usefully according to adult standards. On the other hand, experience seems to point to the fact that boys of this age do not strongly desire to use such tools in sustained production, that is, as *labor*. They keenly desire to achieve production, if not too much time and effort is required and if the production is of such nature as fairly immediately to evoke the rewards of approval or satisfactory use. They wish "to be treated like men, even if they still want to behave like kids."

CERTAIN HYPOTHESES

1. It is here contended that the major objective of developmental experience will prove to be the important primary purpose of industrial arts in all cases of urban boys from twelve to fifteen years

of age; that incidental to the pursuit of this purpose prevocational training can be realized for a few boys; that occasionally negative or positive vocational guidance can accrue; that in all cases some few utilizers' appreciations can be developed; that in perhaps a substantial number of instances "handyman" powers can be trained; and that once in a thousand times, social insights of an important degree are practicable; and almost never can useful centers of correlation be developed.

2. It is also contended that in providing industrial arts for rural boys offerings should be divided sharply into two major types or groups, each individual pupil being allowed to elect at any given time from the group that best suits his ambition at the time. The first of these groups should be dominated by prevocational and "handyman" considerations as dictated by present and future prospects of rural residents and farm workers. The primary activities here suggested are with wood, painting, concrete, gas-engine repair, electrical upkeep, forging, etc. The second group should embrace printing, photography, tailoring, machine shop practice, pottery, bookbinding, and other activities which are, for the boys under consideration, distinctly and obviously "developmental" only in their possibilities.

3. In order to determine desirable objectives for any given type of junior high school, it is very necessary that at least three or four types of case-groups be differentiated; that with reference to each of these the foregoing eight types of values should be considered and probable values distributed through "weights" representing best available expert judgments—experts in all educational values, not subject-matter partisans. It should thus prove possible always through the use of expert judgments to decide on valid programs or offerings for particular schools.

4. If the major objective of developmental experience should prove to be of higher significance in controlling industrial arts for urban junior high schools than any other, then it must be recognized that certain very important consequences for methods and course administration follow. It is suggested that amateur rather than vocational standards must govern the quality of production; that no given pupil be held forcibly to any one line of work except for the completion of a project undertaken under good faith; that no given pupil be required to take industrial arts, if he have other strong preferences and is able otherwise to fill his time profitably; that any given pupil be permitted to take at least two hours per day of industrial arts if he so elect; that

any given pupil be permitted, after the completion of a project in one field, such as wood-working, to shift to another project in photography or any other field, if he so desire; that any given pupil be permitted to specialize in one or two departments, even for one or two years, if he so desire; and that attached to each project shall be as large a fund as practicable of bright and entertaining reading matter in some way related to such project. It should furthermore prove practicable to use as teachers, persons who have not attained to craftsman's standards in particular departments of industrial arts, but who are representative of types of achievements of workers well known in former centuries that can be designated as the "all-round" craftsman, or a type now somewhat contemptuously called "Jack-of-all-trades."

DIVERSITY OF JUDGMENT UPON STANDARDS OF CONTENT AND ACHIEVEMENT IN ENGLISH

BY EARL HUDELSON

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THE AIM of this study is to reveal the diversity of opinion among English teachers upon standards of selection and organization of subject content and upon standards of pupil achievement in the essentials of English literature and composition. It may be that an objective presentation of the conditions treated herein will stimulate English teachers to consider means and devise ways of improving such conditions as are now unsatisfactory.

This study is confined to minimum essentials of English in so far as they have been determined. The author makes no attempt to decide what are essential in English, he being no more competent than any other one person to decide this. The items studied were selected from a majority of published reports on minimum essentials in English; but the results will show that there is far from a unanimous acceptance of these items among teachers.

Probably no attempt should be made to standardize content or achievement in matters desirable but not essential. They provide exercise for the differentiating functions of education. Individual differences in dispositions and abilities are indulged by means of the non-essentials. True minimum essentials, on the other hand, constitute the *sine qua non* of social training. Their accepted function in education is the integration of all members of society through common masteries, common understandings, common appreciations, common attitudes, and common ideals. It seems reasonable to expect that there be considerable agreement among teachers as to what should constitute these minima and to what degree or in what amount they should be mastered at various stages of training.

This study will report current conditions in literature and composition in the following order:

I. Lack of Agreement in the Selection of Subject Content
   A. Literature
   B. Composition

II. Lack of Agreement as to the Arrangement of Content Material
  A. Literature
  B. Composition
III. Lack of Agreement as to Standards of Pupil Achievement
  A. Literature
  B. Composition

I. THE SELECTION OF SUBJECT CONTENT

A. *Literature.* A study was made of the literary selections mentioned in thirty-eight state courses of study in 1921-22. Table I shows that of the 481 selections mentioned, only "Short Stories" was found in more than half of the courses of study. *Ivanhoe* and *Silas Marner* were mentioned in exactly half of the cases. One hundred and eighty-seven selections were mentioned only once in the thirty-eight courses.

TABLE I

FREQUENCY WITH WHICH DIFFERENT LITERARY SELECTIONS WERE MENTIONED IN THIRTY-EIGHT STATE COURSES OF STUDY IN ENGLISH. 1921–1922

Literary Selections	States
Short Stories, ad lib.	20
Ivanhoe	19
Silas Marner	19
Merchant of Venice	17
Julius Caesar	16
4 others	15
4 others	14
4 others	13
4 others	12
3 others	11
5 others	10
5 others	9
12 others	8
19 others	7
20 others	6
32 others	5
32 others	4
47 others	3
99 others	2
187 others	1

There appears to be a wide disagreement as to which selections are adapted to class study and which to outside reading. The majority of the 187 titles having a frequency of 1 were listed under outside reading; but many of the accepted "classics" were about equally divided between outside reading and class study. Table II contains a representative list. Of these 29 selections, only three are confined to class study and only two to supplementary reading. Six others are preponderantly class selections; the rest are about evenly divided.

A clear appreciation of the relative functions of literature for outside reading and literature for class study should result in a more marked and confident differentiation than the state courses of study reveal. One state prints in its requirements, in addition to a formidable array of class selections, a list for outside reading which resembles an index to a complete anthology of English and American

literature. Three states, on the other hand, stipulate one classic for study and one for outside reading each school term. Neither of these extremes may represent the optimum reading load; certainly both do not.

I asked sixteen experienced English teachers in the same school sys-

TABLE II

FREQUENCY WITH WHICH CERTAIN LITERARY SELECTIONS WERE RECOMMENDED OR REQUIRED FOR CLASS STUDY OR FOR OUTSIDE READING IN THE VARIOUS HIGH SCHOOL YEARS, AS INDICATED BY THE PRINTED STATE COURSES OF STUDY IN ENGLISH IN THIRTY-EIGHT STATES, 1921–1922

Literary Selections	Year								Total		
	9		10		11		12				
	CS*	OR*	CS	OR	CS	OR	CS	OR	CS	OR	CS and OR
Ancient Mariner	2	1	8	--	1	--	1	1	12	2	14
As You Like It	2	--	8	--	3	1	--	1	13	2	15
Blue Bird	1	1	2	--	1	2	--	2	4	5	9
David Copperfield	3	--	2	4	1	1	--	1	6	6	12
Franklin's Autobiography	4	2	2	1	1	2	2	--	9	5	14
The House of the Seven Gables	--	1	3	1	2	3	1	2	6	7	13
Julius Caesar	4	--	7	1	2	1	--	1	13	3	16
Les Miserables	1	--	2	--	--	2	--	3	3	5	8
Lyrical Poetry, ad lib.	3	--	1	--	2	--	2	--	8	--	8
Nicholas Nickleby	1	--	1	1	1	2	--	1	3	4	7
Oregon Trail	5	1	1	2	--	--	--	3	6	6	12
Promised Land	2	1	--	2	--	1	--	1	2	5	7
The Piper	1	--	3	--	1	1	--	3	5	4	9
Pilgrim's Progress	1	2	1	1	--	1	2	2	4	6	10
Quentin Durward	2	2	1	--	--	1	--	1	3	4	7
Short Stories, ad lib.	12	--	2	--	3	1	2	--	19	1	20
A Tale of Two Cities	3	--	5	2	3	--	--	1	11	3	14
Tales of a Wayside Inn	3	3	1	--	--	--	--	1	4	4	8
The Virginian	2	--	1	2	--	1	--	1	3	4	7
Adam Bede	--	--	--	--	--	1	3	3	3	4	7
Call of the Wild	1	4	--	1	--	--	--	--	1	5	6
Captains Courageous	5	2	--	1	--	--	--	--	5	3	8
Huckleberry Finn	--	6	--	--	--	--	--	--	--	6	6
Lays of Ancient Rome	6	--	1	--	--	--	--	--	7	--	7
Romola	--	--	--	--	--	--	2	5	2	5	7
Tom Sawyer	--	6	--	--	--	--	--	--	--	6	6
Treasure Island	12	1	--	--	--	--	--	--	12	1	13
Vanity Fair	--	--	--	--	--	2	3	2	3	4	7
Vision of Sir Launfal	5	--	2	--	--	--	--	--	7	--	7

* CS—class study. OR—outside reading.

tem to recommend what in their opinion is the best short story for each year of high school. Not a single story was mentioned more than twice and only three were mentioned more than once. I then gave to each of these sixteen teachers the complete list of short stories that were mentioned in their first response and asked them to check the stories with which they were familiar. Only three of the stories were checked by all sixteen of the teachers.

In a class of twenty-nine university seniors who had majored in English and who were then doing practice-teaching in high school English, I could not mention a single short story which all of them had read. *Rip Van Winkle* came nearest; but one woman—a university senior majoring in English and preparing to teach English in high school—admitted that she knew of Rip by hearsay only. I gave this same class a list of statements about literary classics to be marked "true" or "false." All of the twenty-nine marked "true" the statement, "Silas Marner murdered Godfrey Cass."

I gave a test to fourteen English teachers in one high school, each of whom had taught English at least six years and each of whom had taught English in that high school at least two years. The test consisted of one hundred true-false statements about American and English authors and their writings. Ten typical examples chosen at random are reproduced in Table IV. Each of the hundred statements was to be marked in one of these five ways: "True," "I think true," "I don't know," "I think false," or "False." The only one of the hundred statements upon which all fourteen of these teachers agreed was that Shakespeare wrote *Macbeth*. Each of the five possible responses occurred at least once after thirty-one of the hundred statements. These fourteen teachers were also asked to star those among these hundred statements which they considered essential for high school seniors to know. Almost without exception these teachers starred the items which they themselves knew and left unstarred those which they did not know. All but one of the hundred statements were therefore marked both essential and non-essential by somebody.

I gave twenty-one university seniors who were English majors and who were then doing practice-teaching in high school English, fifty minutes in which to recommend one novel, one drama, one essay, one poem, and one short story for each of the eight semesters of a four-year high school English course. They were not asked to name the best or the most suitable examples; they were merely to name ex-

amples. Yet twelve of the fourteen could not in fifty minutes recall enough examples of each kind of literature to fulfill the assignment. The only type of which all of them gave enough instances was poetry; and one young man had to use the college song to do that.

I have tried each of these tests upon a number of different groups of English teachers and prospective English teachers. I have reported here the worst showing in each case; but none of the results were particularly gratifying. Now and then I have found a teacher who has made an excellent showing, but such cases have been rare. I have also tried these tests on a number of high school classes with disappointing results. I have, however, found three high school girls who made better scores than their own English teachers did.

I am not contending that my tests covered the minimum essentials. I think, however, it is reasonable to assume that some of the items upon which there was wide disagreement touched essentials. Now, one cannot indict a whole nation, or even a whole profession of English instructors. These teachers did not reveal a general ignorance. To me the results mean that when these teachers received their training there was no uniformity in the content of the essentials of that training. There was no agreement upon the part of *their* teachers as to what was essential in American and English literature. How can high school pupils be expected to acquire the essentials if their teachers have not acquired them? And how can teachers acquire them if they do not know what *are* essential? I cite these examples to show some of the lengths to which a lack of standards can reach. English teachers should determine the minimum essentials in literature, use them as a basis for their minimum requirements, and make a certain portion of them prerequisites to promotion each year.

B. *Composition.* In the spring of 1924 I sent out to all of the junior and senior high school English teachers in one state the questionnaire appearing on page 49. The purpose of the questionnaire were to discover (1) what the teachers of that state considered minimum essentials in composition; (2) in what year they considered them minimum essentials; and (3) what degree of achievement they would exact in these minimum essentials. The questionnaire covered sixty-four separate accomplishments, all but one of which were emphasized in that state's printed syllabus in English, and most of which were included in the state syllabi of all other states whose printed material was accessible. The items included spelling, punctuation, language

usage, structure of writing, manuscript form, and other qualities commonly included in high school composition courses. The teachers were

TABLE III

RANGE, MIDDLE FIFTY PER CENT, AND CENTRAL TENDENCY OF TEACHERS' JUDGMENTS AS TO THE SCHOOL YEAR IN WHICH EACH ITEM SHOULD BE ONE REQUISITE FOR PROMOTION TO THE NEXT SCHOOL YEAR. [AVER. NO. OF JUDGMENTS—183.2]

Item	No. of Judgments	Year						Is Not Essential
		Lower Limit	Q_1	Mode	Median	Q_3	Upper Limit	
1	190	1	4	4	5	7	9	
2	190	2	6	8	7	8	11	
3	189	2	7	8	8	9	12	
4	189	1	3	4	4	6	9	
5	189	6	8	8	9	10	14	
6	190	6	8	8	9	10	15	
7	189	4	7	9	8	9	12	
8	184	1	4	4	5	6	16	4
9	188	2	4	5	5	6	10	
10	177	7	9	8	10	12	16	4
11	190	1	3	4	4	6	11	
12	188	2	4	5	5	6	13	1
13	188	1	2	2–3	3	4	8	1
14	45	7	12	X	14	16	16	14
15	188	5	8	8	8	10	16	1
16	185	2	4	4	5	7	12	
17	181	7	9	9	10	12	16	6
18	188	2	8	8	9	11	16	1
19	187	2	4	4	5	6	10	1
20	186	2	4	5	5	6	9	1
21	184	5	8	9	9	10	16	4
22	192	3	7	8	8	9	16	
23	191	3	7	8	8	9	13	
24	191	3	7	8	8	9	13	
25	191	2	7	8	8	9	13	
26	191	3	8	9	9	9	13	
27	192	3	8	9	8	9	13	
28	191	3	8	9	9	10	16	
29	191	3	8	9	9	10	16	
30	191	2	7	9	8	10	13	
31	191	1	6	8	8	8	12	1
32	189	4	9	9	9	11	16	1
33	192	2	6	8	7	8	12	
34	191	6	10	10	10	12	16	1
35	191	7	10	10	10	12	16	1

TABLE III—*Continued*

Item	No. of Judgments	Year						Is Not Essential
		Lower Limit	Q_1	Mode	Median	Q_3	Upper Limit	
36	192	3	7	9	8	9	12	
37	191	1	7	9	8	9	13	
38	189	3	7	8	8	9	16	3
39	191	2	6	9	8	9	16	1
40	180	1	8	9	9	11	16	9
41	191	5	8	8	8	9	16	1
42	191	5	8	9	9	10	16	1
43	190	5	8	8	9	10	12	2
44	190	2	7	9	8	9	11	
45	191	5	8	8	9	10	16	1
46	185	6	9	10	10	12	16	1
47	186	6	10	10	11	12	16	1
48	189	6	9	10	10	11	16	1
49	188	6	10	10	10	12	16	1
50	191	6	9	10	10	11	16	
51	190	6	8	9	9	10	16	
52	166	8	10	10	11	13	16	17
53	191	7	9	11	11	12	16	
54	169	8	10	10	11	12	16	20
55	190	5	8	9	9	10	16	
56	179	4	9	9	10	12	16	3
57	190	6	10	11	11	12	16	
58	192	6	9	10	10	12	16	
59	182	6	8	10	10	11	16	3
60	135	6	12	16	13	16	16	32
61	181	5	10	16	12	15	16	6
62	150	8	12	16	15	16	16	36
63	106	6	9	12	12	14	16	70
64	189	3	8	9	9	11	16	2
65	194	6	8	10	9	10	12	
66	193	5	8	9	8	9	14	

asked to denote (1) which of these items they considered essential at all, and (2) the school year (grades 1 to 16) in which they would make each item *one* requisite for promotion to the next school grade. I shall be concerned just here with only the first of these questions.

Replies to the questionnaire were received from 193 English teachers. Table III shows which items these teachers considered minimum essentials and in which year they would make each essential item one

prerequisite to promotion. Figure 1 shows the twenty-five items which one fourth or more of the teachers agreed should or should not be considered essential. There was closest agreement that the complete avoidance of slang (Item 63) should not be exacted, but even here only forty per cent of the teachers agreed. Some considered it a reasonable prerequisite to promotion as low as the sixth year. It is found as a minimum essential in a number of official publications.

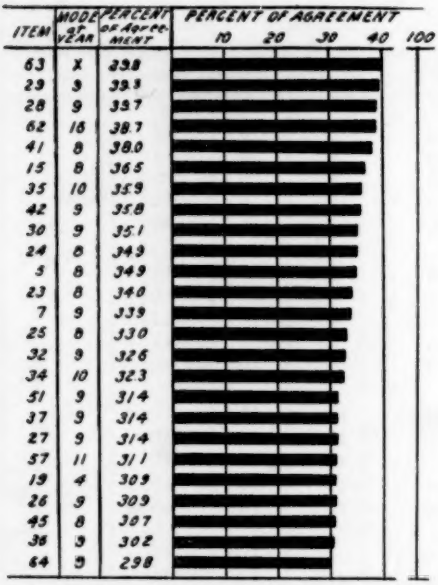

FIG. 1. Items upon which Twenty-five Per Cent or More of the Teachers Were in Agreement (Aver. No. of Judgments, 190)

While on the whole there was considerable agreement as to what is essential and what is not, some of the items reveal wide divergence of opinion. Ten per cent of the 166 teachers who replied to Item 52 do not consider an unerring observance of the rules of syntax essential, although they are frequently listed as such officially. An unerring distinction between the relative pronoun and the conjunctive adverb was considered an unreasonable demand by twelve per cent of the teachers who replied to Item 54. Nearly a fourth of the teachers would consider the complete avoidance of cacophonous expressions a non-essential; nearly an equal proportion rejected as an essential the ability always to express one's sentiments felicitously; while two thirds considered the complete avoidance of slang an unreasonable demand. Over two thirds of the teachers who responded at all voted the ability to spell *syzygy* (Item 14) an essential in spite of the fact that few of them had probably ever seen the word before, fewer had ever had to spell it (outside of spelling lessons!) or ever will have to, not one person in a hundred will ever need to spell it outside of the schoolroom, and it occurred in no available official list of essentials. It might be enlightening to know why only 45 out of 193 teachers made any response at all to *syzygy*.

The significant fact about Figure 1 and Table III is not that there

was great divergence of opinion, but that there was so much divergence upon matters which are listed repeatedly as minimum essentials. Perhaps such unrestrictive terms as "complete" and "unerring" aroused much of the dissension; but those very terms, or their equivalents, recur in official lists of minimum requirements.

II. THE ARRANGEMENT OF CONTENT MATERIAL

A. *Literature.* How closely do English teachers agree upon the order in which literary selections should come? The last ten titles in Table II show commendable agreement. One state puts *Adam Bede* in the eleventh year; the other six which list it at all have it in the twelfth year. All six states which mention *Huckleberry Finn* list it under outside reading in the ninth year. Thirteen states are in practical agreement on *Treasure Island*. But these selections are exceptional. The other nineteen titles in Table II tell a different story. All but two of these selections are found listed by one or more states either under outside reading or class study in each year of high school. All of them are listed in at least three different years. As long as no one knows for what years the various literary selections are best adapted the existing conditions may be as well as any; but there is need of a dependable study of this question. The most valuable selections should be placed as early as they can be understood and appreciated for the sake of the boys and girls who will quit school before graduation. For them there should also be more uniformity in the literary content of their early high school years for its integrating influence.

The facts shown in Table II may account for some of the conditions among English majors and high school English teachers, described earlier. Perhaps Table II will explain why, when I asked sixteen experienced high school English teachers in the same school system to recommend the best short story for each high school year, not one story was recommended twice for the same year.

As a preliminary step to devising a literary test for high schools, I asked three English teachers of long experience to name the literary classic which they think is most universally taught in high school and to state in which high school year they think it occurs most often. One named *Pilgrim's Progress* in the eleventh year, the second opined *Tales of a Wayside Inn* in the tenth year, and the third voted *Julius Caesar* in the twelfth year. Assuming present conditions are the same as in 1922, Table II shows how erroneous these teachers' guesses were.

B. *Composition.* How about the arrangement of compositional content? Figure 2 depicts the facts and Table III analyzes them. Both show to what extent these teachers agreed upon where each of the sixty-four abilities should be made a prerequisite to promotion. Ability to spell the word *fun* (Item 13), for example, was called a minimum essential all the way from grade 1 to grade 8, and one teacher didn't consider it essential at all! The median placement was at grade 3. All of these teachers considered the ability to spell the word *strong* essential to promotion; but some thought it ought to be required in the first school year, while others would not insist upon its mastery before the ninth year. The median placement for ability to spell the word *tuck* is in the fifth year; but some would put it in the first year, others in the senior year of college, while four teachers would not insist upon it at all. *Fellow* ranged as a prerequisite to promotion all the way from the second year to the freshman year of college, with one claim that it should not be a requisite at all. *Chauffeur* ranged from years 2 to 16, with one non-essential vote. Only forty-five teachers seemed to know what they thought about the ability to spell *syzygy;* fourteen voted it a non-essential, but the rest ranged from year 7 to year 16.

Now, certain facts are known about these spelling words which throw further light upon teachers' standards of selection and arrangement of subject content. It would seem from Figure 2 and Table III that, in the judgment of these teachers, the longer a word is, the higher in school it should be placed as a requisite. This attitude is probably based upon the invalid assumption that the spelling difficulty of a word is proportionate to its length. But as a matter of fact *pie* is harder to spell than *promotion, rail* is harder than *restless, lawn* than *lecture, ugly* than *understood, tooth* than *treatment, apron* than *anybody, novel* than *notwithstanding, sex* than *suggestion, cellar* than *commonwealth, equal* than *entertainment, acre* than *advantage, disease* than *decentralization,* and *chauffeur* than *congratulations.*[1] But even if the longest words *were* always the hardest to spell, the aims of education in a democracy decree that there is a more valid criterion than difficulty. *Fellow* and *greet* are allocated by these teachers to the same school year. The two words are also of equal spelling difficulty. But people the country over will have more than nine times as much need of knowing how to spell *fellow* as they will *greet. Candidate* and *economical* are of exactly equal spelling difficulty and

[1] See Briggs, T. H., Kelley, T. L. and Others. *Sixteen Spelling Scales.* Teachers College, Columbia University, New York City.

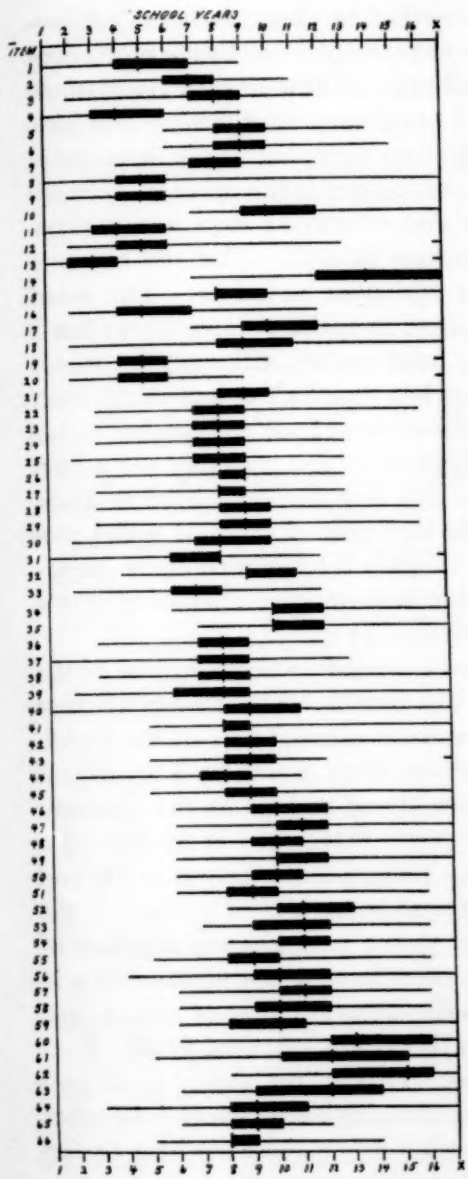

Fig. 2. Range, Middle Fifty Per Cent, and Central Tendency of English Teachers' Judgments as to the School Year in Which Each Item Should Be One Requisite for Promotion to the Next School Year.

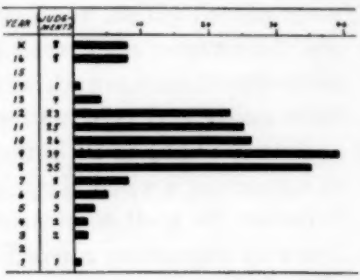

Fig. 3. Distribution of English Teachers' Judgments as to the School Year in which "an Unerring Observation of the Rules for Use of the Hyphen" Should Be One Requisite for Promotion to the Next School Year. (Item 40.)

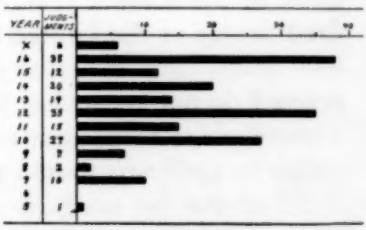

Fig. 4. Distribution of English Teachers' Judgments as to the School Year in which "the Ability to Render Meaning Unequivocal in All Oral and Written Composition" Should Be One Requisite for Promotion to the Next School Year. (Item 61.)

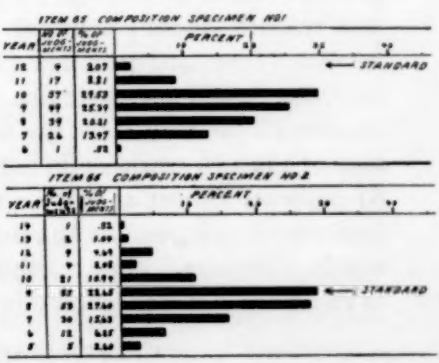

Fig. 5 Distribution of Teachers' Judgments on Composition Standards.

were placed within one year of each other by these teachers; yet people the country over need to know how to spell *candidate* more than seventeen times as much as they need to know how to spell *economical*. *Spiritualist* and *spiritualism* are of equal spelling difficulty and look as if they ought to be in the same spelling year; but one is three times as important a word in our spelling vocabulary as the other is. *Dinner* is harder to spell than *tuck* is; but *dinner* is more than twenty-three times as important a word to know how to spell. The 193 teachers placed them in the same grade as minimum essentials. The word *salary* is among the first three thousand in spelling importance; but I could not find it in a certain widely used speller, although the words *economical* and *promenade*, which are less than half as important, both occur in that speller. *Syzygy* was placed by at least one teacher as far down as the seventh year, even though there are probably not a hundred people in the United States at any one time who need to know how to spell it. Whether it was due to a refined sense of social propriety I do not know; but the same English teacher who made *syzygy* a prerequisite to promotion from the seventh year claimed that the ability to spell *vest* should not be required at all.

All of the 193 teachers considered essential an unerring use of the verbs *come, do, see, go, set, sit, eat, lay,* and *lie*. The median of these teachers puts these verbs in the minimum essential lists of the eighth or ninth years. Some of them, however, were placed by a significant number of teachers as low as the second and as high as the sixteenth year. Ability to use the period properly (Item 31) is considered a prerequisite to promotion all the way from grade 1 to grade 12, and one teacher doesn't consider it a requisite at all. The use of the hyphen (Item 40) presents (Figure 3) the most chaotic situation of any item in the questionnaire. It is considered a prerequisite to promotion all the way from the first to the sixteenth year of school, and nine of the 180 teachers do not deem this ability essential at all. Item 61 presents almost as bad a situation. This is "the ability in all oral and written composition to render the meaning unequivocal." In other words, clearness. Figure 4 shows to what extent these teachers agreed as to where clearness should be a prerequisite to promotion.

III. STANDARDS OF ACHIEVEMENT

A. *Literature*. It is hardly to be expected that the chaotic answers to the hundred items in the literary true-false test were all due to the fact that those college seniors and English teachers had never been

assigned at least some of the literary selections to which they responded incorrectly. There is not space to record the entire test, but the responses from 182 prospective and active English teachers in

TABLE IV

ANALYZED RESPONSES OF 182 PROSPECTIVE AND ACTIVE ENGLISH TEACHERS TO TEN TYPICAL ITEMS IN A HUNDRED-ITEM TRUE-FALSE TEST ON ENGLISH AND AMERICAN AUTHORS AND THEIR WRITINGS

Statements	True	I Think True	I Don't Know	I Think False	False
1. William DeMorgan wrote *Alice for Short*	36	11	92	12	31
12. *A Tale of Two Cities* is a story about Minneapolis and St. Paul	31	51	44	53	3
13. *The Outcasts of Poker Flat* deals with the housing problem	88	63	13	1	17
34. *A Son of the Middle Border* is by Hamlin Garland	23	5	122	10	22
55. Queen Victoria was the wife of King Lear	27	3	40	66	46
56. "Rasselas" was a famous negro minstrel	46	41	80	11	4
66. That the sins of one generation are visited upon subsequent generations is the theme of *The House of the Seven Gables*	9	49	75	38	11
68. *A Certain Rich Man* is a story of frenzied finance	4	10	154	8	6
89. Winston Churchill wrote *Crossing the Bar*	88	66	5	21	2
100. Upton Sinclair created the character of Carol Kennicott	98	51	6	9	18

seven states to ten of the true-false statements are reported in Table IV. Perhaps it is too early to determine the positions of DeMorgan and Garland in their respective literatures; but apparently *Main Street*'s niche is secure, whoever the author was. However much uncertainty there may be about the doings of Dickens and Hawthorne

and Bret Harte, Rasselas, it seems, was the prototype of Al Jolson, and it wasn't Tennyson at all who crossed the bar!

B. *Composition.* At the end of the questionnaire (Items 65 and 66) two actual pupil themes were reproduced. The English teachers who received the questionnaire were asked to state in which school year of composition they would place the authors of these themes if classification depended upon these evidences alone. The two themes had already been reliably scored on a composition scale. Specimen No. 1 (Item 65) is a standard twelfth-year composition, while Specimen No. 2 (Item 66) is a standard ninth-year theme. Figure 5 shows the responses which 194 and 193 English teachers made. The child who wrote Specimen No. 1 would have been placed in the sixth year by one teacher and in the ninth or tenth year by the majority of them. Only four out of 194 teachers would have classified this child correctly by this theme. The author of Specimen No. 2 would have been placed in the fifth grade by five teachers and in the second year of college by one teacher. The majority of them, however, would have classified him within a year of where he belonged. Nevertheless there is sufficient evidence here to justify in my own mind my reaction to the following incident. A teacher in a distant state wrote, "My high school freshmen average 80 in composition; is that satisfactory?" I replied, "I cannot tell, for I do not know how much composition merit '80' represents in your mind. If you will send me several samples of quality 80 I shall have them scored on an objective scale and tell you whether these themes are up to the standard for the ninth year."

Ten teachers in one junior high school were asked to score eight pupil compositions on a percentage basis. Figure 6 pictures the range, average deviation, and average percentage score of these ten teachers on each theme. The narrow black lines show the range of scores, the heavy black lines show the average deviations, and the cross bars indicate the average percentage scores. On the right are shown the composition standards for each year, 4 to 12. It is evident that the five teachers who agreed most closely in each case varied from two-and-a-half to five composition years on these themes.

Seventeen English teachers in one junior-senior high school in another state scored seventeen of their own pupils' themes in terms of per cents. Figure 7 pictures the results. Conditions are approximately the same as in Figure 6. Occasionally two teachers will differ as much as ten composition years in their scores. Other similar ex-

periments show that the results pictured in Figures 6 and 7 are typical of results wherever teachers have not learned to use objective composition scales.

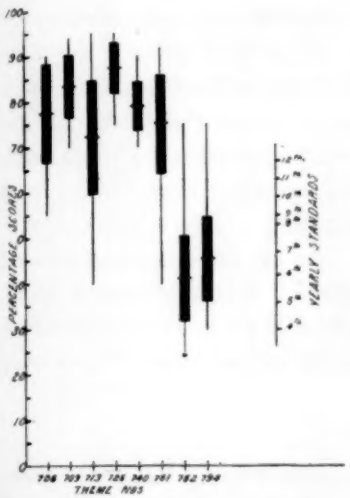

FIG. 6. Range, Middle Fifty Per Cent, and Average Percentage Scores of Ten Teachers in the Same Junior High School on Eight Themes, Compared with Yearly Standards in Composition

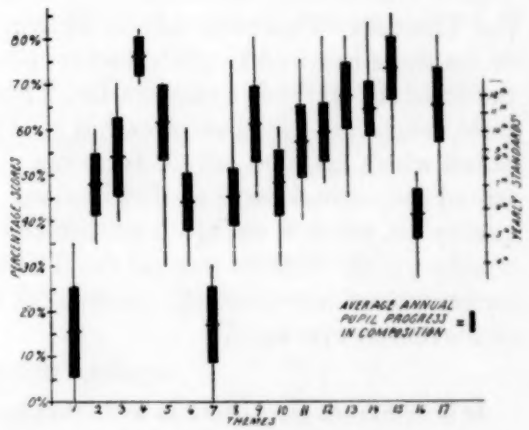

FIG. 7. Range, Middle Fifty Per Cent, and Average Percentage Scores of Seventen Teachers on Seventeen Themes, Compared with Yearly Standards in Composition

Briggs [2] requested high school English teachers all over the country to submit samples of what they considered barely passing theme-writing in their freshman and senior English classes and samples of what they deemed highly superior compositions in their freshman and senior English classes. He found from some high schools "barely passing" freshman themes of higher merit than "highly superior" senior compositions from other high schools. He also found that the range of "passing" in the freshman year is nearly twice the average pupil improvement in composition during a four-year high school course. He discovered in typical classes a range greater than the difference between the median freshman theme quality the country over and the median senior theme quality the country over. Certain and Hudelson, working independently, collected data which verify Briggs's findings. Briggs and Hudelson separately found that whereas through the four high school years the lower limit of "barely passing" moves up quite

[2] Briggs, T. H. "English Composition Scales in Use." *Teachers College Record*, XXIII: 423-52 (November, 1922).

satisfactorily, the upper limit remains almost stationary. In other words, a superior theme in the senior year means about the same as it does in the freshman year. It depends chiefly upon what teacher a pupil draws.

Several years ago at a meeting of the English teachers' section of a state educational association, Professor Thorndike gave a copy of the Thorndike Extension of the Hillegas Composition Scale to each of the three hundred English teachers present. After they had studied the scale for thirty-five minutes Dr. Thorndike called out the various scale values and asked each teacher to stand up when that quality was called which his high school freshmen averaged. The results represented the normal curve of distribution. The modal response was at quality 70, which is college freshman standard. One man stood up at quality 95, the highest step on the Thorndike Scale. Dr. Thorndike congratulated him fervently, saying, "That is better than Thackeray or Stevenson averages!"

CONCLUSIONS

It is apparent that there is wide disagreement among English teachers as to what constitute minimum essentials in both literature and composition, as to the order in which the essentials should be presented, as to the year in which a mastery of each essential accomplishment should be made requisite, and as to what degree or amount of proficiency should be expected. There is far from general acceptance by classroom teachers of the selection and arrangement of minimum essentials as published in official lists, and wide disagreement upon standards of achievement.

No one person is competent to standardize content or achievement in the essentials of English; but it seems only reasonable that these matters can and should be determined more reliably than they now are. If, for example, some teachers place as a prerequisite to promotion in the second year of the elementary school an accomplishment which other teachers either place in the senior year of college or do not consider an essential at all, no wonder our pupils go into college or into life heterogeneously trained! In perhaps many matters this *should* be true in a democracy, else pupils' peculiar interests, aptitudes, and capacities will not receive equitable recognition; but it does not seem unreasonable even in a democracy to insist that every child be expected to acquire certain essential social accomplishments if he is at all capable of doing so.

THE QUESTIONNAIRE

In the parentheses after each of the following items insert the school year or grade (1, 2, 3, 4, etc., up to 16 which is the senior year of college) in which you would make the item *one requisite* for promotion. If you do not consider the item essential at all, insert an × in the parentheses.

The ability to spell correctly the following words (answer each word separately):

1. dinner ( )
2. salary ( )
3. candidate ( )
4. strong ( )
5. architecture ( )
6. economical ( )
7. salaries ( )
8. tuck ( )
9. flood ( )
10. spiritualism ( )
11. vest ( )
12. fellow ( )
13. fun ( )
14. syzygy ( )
15. amendment ( )
16. greet ( )
17. spiritualist ( )
18. chauffeur ( )
19. joke ( )
20. obey ( )
21. promenade ( )

The ability to use unerringly all forms of the following verbs (answer each verb separately):

22. go ( )
23. see ( )
24. do ( )
25. come ( )
26. sit ( )
27. set ( )
28. lay ( )
29. lie ( )
30. eat ( )

The ability to observe unerringly the rules for using the following punctuation marks (answer each one separately):

31. the period ( )
32. the comma ( )
33. the question mark ( )
34. the colon ( )
35. the semicolon ( )
36. the apostrophe of possession ( )
37. the apostrophe of contraction ( )
38. the exclamation point ( )
39. capitalization ( )
40. the hyphen ( )

41. Be able to recognize and name the parts of speech in any correct sentence. ( )
42. Be able to embody any part of speech in a grammatically correct sentence. ( )
43. Be able to write examples of the simple, the compound, and the complex sentence. ( )
44. Show properly where one sentence ends and another begins. ( )
45. Distinguish unerringly between phrases, clauses, and sentences. ( )
46. Observe unity in all oral composition. ( )
47. Observe unity in all written composition. ( )
48. Observe coherence in all oral composition. ( )
49. Observe coherence in all written composition. ( )
50. Paragraph written composition properly. ( )
51. Paragraph and punctuate written conversation properly. ( )
52. Observe unerringly the rules of syntax. ( )
53. Use conjunctions discriminatingly. ( )

54. Observe unerringly the distinction between the relative pronoun and the conjunctive adverb. ( )
55. Write a business letter perfect as far as form is concerned. ( )
56. Prepare manuscripts properly. ( )
57. Be able effectively to cast material in topical outline form. ( )
58. Know how to make full use of an unabridged dictionary. ( )
59. Be able to spell correctly the fifty most common homonyms. ( )
60. Avoid completely the use of cacophonous expressions. ( )
61. Be able in all oral and written composition to render meaning unequivocal. ( )
62. Be able always to express one's sentiments felicitously. ( )
63. Avoid completely the use of slang. ( )
64. Compose, punctuate, and capitalize a theme title correctly. ( )

Below are reproduced two actual pupil themes. Please indicate in the parentheses below each specimen the school year in which you would place the pupil who wrote it if you were required to classify him on the basis of this single composition.

Item 65. Specimen Theme No. 1

The Most Exciting Ride I Ever Had

Last Sunday I was invited to go on a automobile ride with some friends. We started out at 10 o'clock and our plans were to take lunch and be home promptly at 6 o'clock, because the car was promised to someone else. Every one of us were anxious to take a country ride so we went almost fifty miles out.

Somehow the day passed more quickly than we thought. I looked at my watch and saw that we had only one hour in which to get home. Hurridly we packed in the car and our driver started it with a jerk which nearly threw me out. Then came the long steep hills. Over them we dashed, I held tightly to the girl by me. Presently we saw that the driver was losing control of the car, so all on the rear seat began to scream. It was useless, for nothing could keep us from being thrown right into the ditch ahead. Crash! it went, turning over twice and strewing us like apples rolling out of a basket. No one was seriously injured, but we had to hire a car to get home in. We disappointed the party waiting for their car. However, it taught us that it isn't so well to hurry at a risk of a persons life.

( )

Item 66. Specimen Theme No. 2

The Most Exciting Ride I Ever Had

Cranking the car, we started down the lane, and were soon in the road which was crouding with many vehicles. After riding for about two miles we had to cross over a bridge nearly a mile long. we were riding swiftly over the bridge when we saw someone meeting us. Realizing that we would meet in a narrow

place on the bridge we put on speed to get to a turn out, but just at the same time the gentleman confronting us, put on speed and as the driver of our car tried to pass the other on the narrow bridge the back of the car slipped, hit the railing, and came near throwing the passengers overboard into the deep water below.

The air was filled with shreaks of fear as the big car rooled on the center of the bridge again, and it was a very excited group that after all of the excitement arrived safely at their destination.

( )

JOB-ANALYSIS SHEET FOR COMPUTING PARTIAL AND MULTIPLE COEFFICIENTS OF CORRELATION AND REGRESSION COEFFICIENTS

BY PERCIVAL M. SYMONDS
Associate Professor of Education, Teachers College

IN using the subway to get from the Pennsylvania Station to the Grand Central Station in New York City one has to change cars and take the "shuttle," which connects the subway lines on two sides of the city. The underground station at Times Square where one makes the change is like a maze. One has to climb stairs and turn curves, and although to one who is familiar with the route it is quite simple, it is very confusing to the stranger. To help strangers there is painted on the ceiling a green line which maps the route one should follow in changing trains. One who is totally ignorant of the way need only walk beneath the green line as far as it goes and eventually it will lead to the "shuttle" train. So the slogan, "Follow the green line," has become synonymous with a set of directions so explicit and clear that one may perform a difficult operation with little or no preparation or trouble.

I find that I use partial coefficients of correlation just infrequently enough so that I forget the formulae between times. Each time I have to hunt for these formulae in one of the statistical treatises. For some reason no one has yet succeeded in writing a description of partial and multiple correlations that is simple. Even such a fine treatment as Kelley's seems to suffer in that the formulae one wishes to use are not readily available and one has to do a deal of technical reading before his eye lights on the precise formulae he is searching for. I also find that the computation of these coefficients is by no means a simple process and that unless I plan my work carefully before I start, my calculation sheet when finished contains a mass of figures which have lost their significance. Accordingly, I hit upon the plan of constructing for myself a "green line" in the form of a job analysis sheet which will at the same time contain *first* the requisite formulae; *second* a space for each step in the computation, and *third* the order in which this computation is most economically done. This chart I found so convenient for myself and my classes in mimeographed form that I

have prepared it for a wider distribution by having the Bureau of Publications of Teachers College undertake its publication.

On page 54 is a reproduction of the chart with an example filled in which this article will proceed to describe.

First, note the general outline of the chart. At the top are boxes in which to insert the names of the variables and the original data,—coefficients of correlation, means, and standard deviations of the three variables which this chart is designed for. The three columns of boxes in the middle of the sheet are the ones where the computation is done. The equations at the right of the sheet tell what the results in various boxes along the route are, so that these equations form a sort of key to the meaning of the various steps in the work sheet. The boxes in the lower right corner are to contain the desired coefficients,—they are the "answer" boxes where one may easily glance to see the value of any coefficient in the problem. Below the computation boxes is the regression equation in terms of the gross scores of the problem. This equation is written in three ways. The first is the algebraic or literal form of the equation. The second equation is the first repeated showing the number of the boxes where the coefficients and constant term are to be found among the computation boxes. The last equation is a blank equation in which one may fill the values of the regression coefficients and the constant term as they have actually been found in the computation.

The numbers at the right of each box indicate the steps in the computation. For instance, the first step is to fill in the value of the coefficient of correlation r_{01}. The first nine steps are merely the filling in of original data. In all there are thirty-seven steps in the computation, the order of work being indicated by following in consecutive order the numerals at the right of each box. The numerals at the left of each box tell what the operation is which gives the value of that box; whether addition, subtraction, multiplication, division, square root or a combination of these. These numbers at the left in every case refer to boxes which have already been numbered (and computed) by the figures at the right of the boxes which indicate order of operations.

The capital letters above each nest of boxes are useful in case one wants to find only certain of the constants. Just what steps to take in case a certain constant is desired is indicated at the bottom of the chart. For instance, to find X_0, the regression equation, one need only

compute steps A, B, F, G, H, Q, R, S, which naturally eliminates much of the unnecessary work of finding some of the other constants. So much for the general plan of the chart.

SYMONDS PARTIAL AND MULTIPLE CORRELATION CHART
3 VARIABLES

	Variables	Coefficients		Means		Standard Deviations	
0	College Marks	r_{01} .672	1	M_0 75.0 %	4	σ_0 6.6	7
1	Thorndike Intelligence Score	r_{02} .262	2	M_1 81.0	5	σ_1 14.6	8
2	Secondary School Marks	r_{12} .120	3	M_2 84.2 %	6	σ_2 5.2	9

	A		B		C	
1	.672	2	.262	3	.120	
2×3	.031	10	1×3 .081	12	1×2 .176	14
1−10	.641	11	2−12 .181	13	3−14 −.056	15

	D		E		F	
	1.000		1.000		1.000	
1^2	.452		2^2 .069		3^2 .014	
$1.000-1^2$	.548	16	$1.000-2^2$ .931	17	$1.000-3^2$ .986	18

	G		H		I		J		K	
$\frac{11}{18}$	.650	19	$\frac{13}{18}$ .184	20						
$\frac{11}{\sqrt{17\times18}}$	.668	21	$\frac{13}{\sqrt{16\times18}}$ .246	22	$\frac{15}{\sqrt{16\times17}}$	−.078	23			

	L		M		Q		
	1.000		1.000	$\frac{7}{8}$	.452	30	
21^2	.447		22^2 .061	19×30	.294	31	
$1.000-21^2$	.553	24	$1.000-22^2$ .939	25			

	N		Check	O	R		
	1 000				$\frac{7}{9}$	1.268	32
17×24	.515	26	16×25	.515	20×32	.233	33
1.000−26	.485	27					
$\sqrt{27}$	.697	28					

	P		S		
			31×5	23.8	34
7×√26	4.74	29	33×6	19.6	35
			34+35	43.4	36
			4	75.0	
			4−36	31.6	37

$11 = r_{01} - r_{02}\,r_{12}$
$13 = r_{02} - r_{01}\,r_{12}$
$15 = r_{12} - r_{01}\,r_{02}$
$16 = 1 - r^2_{01}$
$17 = 1 - r^2_{02}$
$18 = 1 - r^2_{12}$
$19 = \beta_{01\cdot2}$
$20 = \beta_{02\cdot1}$
$21 = r_{01\cdot2}$
$22 = r_{02\cdot1}$
$23 = r_{12\cdot0}$
$24 = 1 - r^2_{01\cdot2}$
$25 = 1 - r^2_{02\cdot1}$
$28 = r_{0\cdot12}$
$29 = \sigma_{0\cdot12}$
$31 = b_{01\cdot2}$
$33 = b_{02\cdot1}$
$37 = c$

19	.650	$\beta_{01\cdot2}$
20	.184	$\beta_{02\cdot1}$
21	.668	$r_{01\cdot2}$
22	.246	$r_{02\cdot1}$
23	−.078	$r_{12\cdot0}$
28	.697	$r_{0\cdot12}$
29	4.74	$\sigma_{0\cdot12}$
31	.294	$b_{01\cdot2}$
33	.233	$b_{02\cdot1}$

Regression equation: $X_0 = b_{01\cdot2}\,X_1 + b_{02\cdot1}\,X_2 + c$
or: $X_0 =$ (31) $X_1 +$ (33) $X_2 +$ (37)
$X_0 =$ .294 $X_1 +$ .233 $X_2 +$ 31.6

To find $\beta_{01\cdot2}$ *use only steps* A, F, G; $\beta_{02\cdot1}$, B, F, H.
To find $r_{01\cdot2}$ *use only steps* A, E, F, I; $r_{02\cdot1}$, B, D, F, J; $r_{12\cdot0}$, C, D, E, K.
To find $r_{0\cdot12}$ *use only steps* A, E, F, I, L, N.
To find X_0 *use only steps* A, B, F, G, H, Q, R, S.

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DESIGNED BY
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COLUMBIA UNIVERSITY

It is intended that the computations will be made with the aid of a slide rule as perhaps the most economical means of computing.

The following description of a process of computation is written in a very elementary way for the benefit of those who do not wish to

understand the derivation of the various formulae. It is assumed that everyone understands the meaning of coefficients of correlation, arithmetic mean, and standard deviation. My general plan will be to describe a step in the computation and then discuss the meaning and significance of the result. The problem I have chosen is taken in part from data in Wood's *Measurement in Higher Education.*

Step 1. The first step in using the chart is filling out the names of the variables. The O variable is sometimes called the *criterion.* It is the variable which we should like to predict. Our problem is to combine our other variables in the best way such that the combination or composite of these has the highest correlation with this criterion. In this example the criterion is college marks. We are interested in the problem of predicting college marks. The question is, "What variables that we can measure before a boy or girl enters college will correlate most highly with his success in college, and can we combine these measures in any way so that together they will correlate more highly with college marks than any one will separately?" Variable 1 is entered Thorndike Intelligence Score and Variable 2 is entered Secondary School Marks. These are the two variables which can be obtained before matriculation in college and we are interested in their relative value in helping predict college success.

Step 2. Our next step is filling in the boxes of coefficients. $r_{01} = .672$, $r_{02} = .262$ and $r_{12} = .120$ according to figures given by Wood. These coefficients must have already been found before attempting to find partial or multiple coefficients of correlation.

Step 3. Next fill in the means. Box 4 (M_0) is the mean of college marks. I have entered 75% as a hypothetical figure as Wood does not give means and standard deviations to accompany the correlations reported in boxes 1, 2 and 3. Box 5, the mean of the scores on the Thorndike Intelligence Examination, has a value of 81.0. Box 6, the mean of secondary school marks in per cent, has a value of 84.2%.

Step 4. The next step is to fill in the values of the standard deviations. Boxes 7, 8, and 9 have values 6.6, 14.6, and 5.2, respectively. It is understood that these nine figures are not the result of immediate computation but have been previously determined. They are the original data of the problem.

Step 5. Next is the computation of the group of boxes headed A. In the first box of this group, .672, the value given in box 1 above, is brought down. Box 10 is found by multiplying the values in boxes 2

and 3. ($.262 \times .120 = .031$.) One must be extremely careful in making this multiplication to place the decimal point correctly. I find the best safeguard is that of saying the multiplication over to myself verbally: .1 of .26 cannot possibly be .3 so it must be .03. Some such check as this is necessary in almost every step. Box 11 is obtained, as we are told at the left of the box, by subtracting box 10 from box 1. $.672 - .031 = .641$. The groups of boxes B and C are computed in exactly similar manner and the reader ought to be able to follow through these steps by himself. Step 5, the computation of groups A, B and C, gives the numerators of the partial coefficients of correlation and the regression coefficients.

Step 6. The group headed D is easily obtained. First the value in box 1 is squared ($.672^2 = .452$) and is entered in the box opposite 1^2. Box 16 is obtained by subtracting this last number (.452) from 1.000. The 1.000 has already been printed in the chart, and the subtraction may be immediately made. The value of box 16 is .548. Boxes 17 and 18 are similarly found. This group of boxes D, E, F gives values of the type $1 - r^2$ which are used in the denominators of both regression coefficients and partial coefficients of correlation.

Step 7. Groups G and H give the *regression weights*. Box 19 is obtained by a direct process of division. Box 11 divided by box 18 gives $.641 \div .986 = .644$. In similar manner, box 20 has a value of .184. These values are now entered in the boxes in the lower right-hand column of the sheet as two "answers" which we are seeking. The formulae for these two β's or regression weights are

$$\beta_{01.2} = \frac{r_{01} - r_{02} \cdot r_{12}}{1 - r^2_{12}}$$

$$\beta_{02.1} = \frac{r_{02} - r_{01} \cdot r_{12}}{1 - r^2_{12}}$$

These *regression weights* tell us the relative values of the two variables, intelligence test scores and secondary school marks, for predicting college success. From the figures it is seen that the intelligence test scores are over three times as important as secondary school marks for predicting success in Columbia College. If the intelligence test scores and secondary school marks had the same variability we could combine immediately to obtain the composite which will best predict college success. But since these variabilities are not equal, the β's or *regression weights* merely give us a measure of relative importance.

Step 8. Groups I, J, and K give the *partial coefficients of correlation.* Since the chart was constructed with the intention that the slide rule should be used in performing the computations, only one box is provided, for the computations involved may be accomplished in one step on the slide rule. For box 21 the computation involves the following operations on the values in boxes 11, 17, and 18: $\frac{11}{\sqrt{17 \times 18}}$. With the values inserted this becomes $\frac{.641}{\sqrt{.931 \times .986}}$ which equals .668. In like manner the values of boxes 22 and 23 are .246 and −.078. One must be careful to keep the sign of the coefficients in these computations. Boxes 21, 22, and 23 are now re-entered in the answer boxes at the lower right of the sheet. These three values are known as *partial coefficients of correlation* and are symbolized by $r_{01.2}$, $r_{02.1}$ and $r_{12.0}$, whose formulae are

$$r_{01.2} = \frac{r_{01} - r_{02} \cdot r_{12}}{\sqrt{(1 - r^2_{02})(1 - r^2_{12})}}$$

$$r_{02.1} = \frac{r_{02} - r_{01} \cdot r_{12}}{\sqrt{(1 - r^2_{01})(1 - r^2_{12})}}$$

$$r_{12.0} = \frac{r_{12} - r_{10} \cdot r_{20}}{\sqrt{(1 - r^2_{10})(1 - r^2_{20})}}$$

In quantitative work on educational and psychological problems it is not always possible to obtain the experimental conditions one desires. In physics, for example, one is able to control such variables as heat, pressure, light, vibrations, until the only variables which have any bearing on the experiment are the two whose relationship one wishes to find. But in working on human material it is not possible either to control conditions or to select subjects such that all variables are constant except the two whose relationship we are interested in. In this problem perhaps the correlation of .262 between college marks and secondary school marks is due to the fact that both college marks and secondary school marks are correlated with intelligence. It may be the factor of intelligence which in part makes a boy who stands high in his high school career also stand high in college. To test this experimentally one would have to pick out a group of boys all of the same intelligence and then find the correlation between college marks and secondary school marks. The amount by which this correlation was lower than it is in our actual case would be an indication of the influence of intelligence. Unfortunately it is very difficult to pick out

a large enough group of boys of the same intelligence to make such an experiment possible. But fortunately we do not need to do so, for by a mathematical device we can determine by mere computation with our original coefficients what this correlation would be if all the boys were of equal intelligence. Box 22 gives the correlation between college marks and secondary school marks with intelligence made constant. It is symbolized by $r_{02 \cdot 1}$, meaning the correlation between 0 and 2 with 1 made constant or, mathematically, freed entirely from linear dependence on 0 and 2. If the value of $r_{02 \cdot 1}$ (.246) is compared with the value of r_{02} (.262) it is seen that, when freed from the influence of intelligence, the relationship between college marks and secondary school marks is lowered slightly. Likewise, there is something in secondary school marks which enters as a factor in the correlation of college marks and intelligence, for the correlation between college marks and intelligence test scores (.672) is lowered slightly (.668) when secondary school marks are made constant. Partial coefficients of correlation are powerful instruments in helping untangle *causes,* for they help free the relationship between any two variables from the influence of other measurable factors.

Step 9. Groups L and M are found in a manner similar to groups D, E, and F. Box 24 $(1 - r^2_{01 \cdot 2})$ is necessary for finding the multiple coefficient of correlation. Box 25 $(1 - r^2_{02 \cdot 1})$ is necessary for finding the multiple coefficient of correlation by an alternative method.

Step 10. Groups N and O complete the computation of the multiple coefficient of correlation. Box 26 is given by the product of the values of boxes 17 and 24 and equals .515. As a check, box O, the product of boxes 16 and 25, should give the same value. This is a partial check on the work up to this point as an error in either boxes 16, 17, 24 or 25 would be shown up here. This means a complete check on the two partial coefficients of correlation and a partial check on the regression weights. Box 27 is 1.000 minus the value of box 26. Box 28, the *multiple coefficient of correlation,* which is the square root of box 27, equals .697. This value is entered in the answer box in the lower right corner of the sheet. The formula for the multiple coefficient * of correlation is

$$r_{0.12} = \sqrt{1 - (1 - r^2_{02})(1 - r^2_{01.2})}$$
$$= \sqrt{1 - (1 - r^2_{01})(1 - r^2_{02.1})}$$

* The multiple coefficient may also be found by using the formula

$$r_{0.12} = \frac{\sqrt{r^2_{01} + r^2_{02} - 2r_{01}\, r_{02}\, r_{12}}}{\sqrt{1 - r^2_{12}}}$$

The first of these only is carried through to completion in the chart. Box O is on the way to carrying through the second formula and should give the same result as the first.

The multiple coefficient of correlation is quite different from the partial coefficient. In this example, if the intelligence test scores and the secondary school marks were combined in a certain way so that the composite score would correlate most highly with college marks, the multiple coefficient of correlation tells what this maximum correlation would be. In this case it is .697, only .025 higher than the correlation of the intelligence test with college marks alone. This helps answer the question as to whether it is advisable to work with and use the secondary school marks in estimating college success. Since they give only .025 more correlation than can be obtained by the use of intelligence tests alone, this fact taken with the greatly added labor in making the composite would probably be a good basis for the admissions office disregarding secondary school marks in selecting for admission. The multiple coefficient can be obtained even before we have found what is the best way of weighting in order to make the composite. The multiple coefficient of correlation is written $r_{0.12}$ and is read the correlation of 0 with the best weighted composite of 1 and 2. Note that the partial coefficient has two variables before the dot, $r_{01.2}$, whereas the multiple coefficient has only one variable before the dot, $r_{0.12}$. They mean quite different things.

Step 11. Box 29 gives the standard error of prediction. Its value is found by multiplying the value of box 7 by the square root of the value of box 26 and equals, in our example, 4.74. This value is entered in the answer box in the lower right corner of the sheet. The formula is:

$$\sigma_{0.12} = \sigma_0\sqrt{(1 - r^2_{02})(1 - r^2_{01.2})}$$
$$= \sigma_0\sqrt{(1 - r^2_{01})(1 - r^2_{02.1})}$$

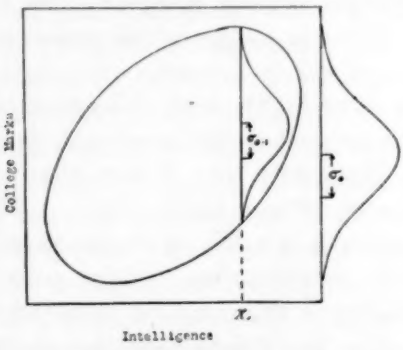
The value of $\sigma_{0.12}$ should be compared with $\sigma_{0.1}$* and σ_0

$$\sigma_0 = 6.6$$
$$\sigma_{0.1} = 4.89$$
$$\sigma_{0.12} = 4.74$$

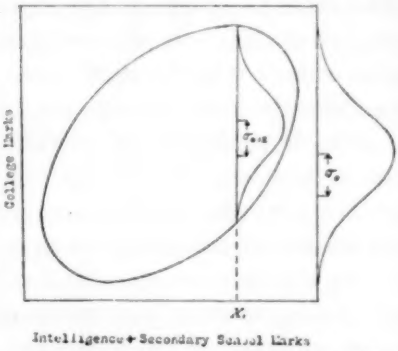
The significance can best be shown by the diagram which appears on page 60.

* $\sigma_{0.1} = \sigma_0\sqrt{1 - r^2_{01}}$

The elipse represents the scattergram of intelligence scores and college marks. The normal curve of error at the right of the figure is the total distribution of college marks as used in this problem and its



Schematic Scattergram Showing the Correlation Between College Marks and Intelligence



Schematic Scattergram Showing the Correlation Between College Marks and Composite of Intelligence and Secondary School Marks

standard deviation has a value of 6.6. This standard deviation is labeled σ_0 in the figure. Select any intelligence score X_1. The college marks corresponding to a single intelligence score is called an array and also in the theoretical case is in the form of a normal curve of error with a standard deviation ($\sigma_{0.1}$ meaning the standard deviation of college marks with intelligence constant, i.e., for a single intelligence test score) which equals 4.89. From this it is seen that the total standard deviation of college marks is reduced comparatively little in taking a single array of intelligence test scores. The S.D. of the single array is still 74 per cent $\left(\frac{4.89}{6.6}\right)$ of the total distribution of college marks. This shows that there is not a very accurate prediction of college marks from intelligence test scores. Now if instead of intelligence test scores alone we have a composite of intelligence test scores and secondary school marks, the S.D. of the distribution of this single array becomes 4.74. This is another way of comparing the predictive value of the composite and the gain in taking the composite for prediction in preference to intelligence test scores alone.

Step 12. Groups Q, R and S complete the computation of the *regression coefficients*. The reader by this time is acquainted with the use of the chart and I will not describe in detail the steps in the computation. The regression equation is:

$$X_0 = b_{01.2}\, X_1 + b_{02.1}\, X_2 + c$$

where

$$b_{01.2} = \frac{\sigma_0}{\sigma_1} \beta_{01.2}$$

$$b_{02.1} = \frac{\sigma_0}{\sigma_2} \beta_{02.1}$$

and

$$c = M_0 - b_{01.2} M_1 - b_{02.1} M_2.$$

Box 31 gives $b_{01.2}$, box 33 gives $b_{02.1}$, and box 37 gives c.

$$b_{01.2} = .294$$
$$b_{02.1} = .233$$

and these values are entered in the answer boxes. The blank regression equation is now filled in so as to read

$$X_0 = .294\ X_1 + .233\ X_2 + 31.6.$$

This is our equation for prediction.

To illustrate the use of this equation let us take an imaginary case. A boy presents himself for admission to Columbia College, his average high school record is 90 per cent and he makes a score of 90 on the Thorndike Intelligence Examination for High School Graduates. What is his most probable freshman college grade? By inserting 90 for X_1 and 90 for X_2 in the formula we have:

$$X_0 = .294 \times 90 + .233 \times 90 + 31.6$$
$$= 79.0.$$

That is, his most probable average college grade will be 79.0 per cent. But one must remember that this is always only a *most* probable figure. A truer statement should be

$$X_0 = b_{01.2} X_1 + b_{02.1} X_2 + c \pm \sigma_{0.12}$$
$$= 79.0 \pm 4.74$$

which is the prediction, plus or minus its standard error, or

$$X_0 = b_{01.2} X_1 + b_{02.1} X_2 + c \pm .6745\ \sigma_{0.12}$$
$$= 79.0 + 3.20$$

which is the prediction plus or minus its probable error. That is, the chances are even that this predicted value of college record, 79.0 per cent, is in error by 3.2 per cent. On the other hand, this is the best prediction one can make using a composite of intelligence test scores and secondary school marks. As was stated above, one does nearly as well predicting from intelligence test scores alone.

The two *regression coefficients*, $b_{01.2}$ and $b_{02.1}$, have a ratio quite different from the *regression weights*. One regression weight is nearly three times as large as the other. The two regression coefficients have nearly the same value. This is because the regression coefficients allow for differences in the variability of variables 1 and 2. Since variable 1 has a variability (14.6) nearly 3 times variable 2 (5.2) it is already weighted in the ratio, $\frac{14.6}{5.2}$, so that when the regression weights come to be applied the actual regression coefficients have nearly the same value (.294 and .233).

This completes the description of the chart. The total computation can be completed in ten or fifteen minutes by one skillful in the use of the slide rule. Dr. Kelley tells me in correspondence that he now favors the method of determinants for the solution of a three-variable problem. The computation in this chart is the same as the computation by determinants for three variables with the added advantage that the scheme of work is laid out in advance.

With regard to the above problem, although it states accurately the facts found in using intelligence tests at Columbia College, it does not analyze the problem completely. The low correlation of .262 between college success and secondary school marks is not due to a low correspondence between these two variables but to the fact that many secondary schools are included in the secondary school marks which hold widely differing standards of marking. In Hawaii I found the correlation between these three variables to be

r college marks-intelligence test scores ..... .57

r college marks-high school marks ..... .30

Here the correlations are reversed. Where the standards of marking in the high schools are comparable as in Hawaii a much higher correlation may be expected between college marks and high school marks. Wood is of the opinion that if he were able to get "standardized" high school marks, he would have a variable which would be the most valuable single factor for predicting college success. High school marks contain not only the factor of intelligence but that other valuable factor in school success—industry. Wood is now campaigning for sentiment among college and secondary school bodies to help in some way to standardize secondary school records so that the records from one school may be directly compared with the records from another school.

The use of partial and multiple correlation is recent although the theory underlying it was developed some time ago. Bravais in 1846 "deals completely with the correlation of two and three variables," to quote from Karl Pearson. The work was forgotten and in 1892 Edgeworth, quite independently, in a paper "On Correlated Averages," dealt with correlation for three variables, using Galton's notation. He indicated how the method may be extended to higher degrees of correlation. Pearson restated the theory in his classic memoir, "Regression, Hereditary and Panmixia," in 1896. To Yule in 1897 belongs the credit for giving the first simplified discussion of partial correlation and in a terminology which approximates that used to-day. Yule then introduced the symbols b (β as used in this paper) to stand for regression weights (previously called by Pearson coefficients of double regression) and to his $_2b_1\frac{\sigma_2}{\sigma_2}$ (the b of this paper) he gave no name (previously called by Pearson coefficients of double correlation). Yule symbolized the partial coefficients of correlation by ρ and called it "net correlation" and suggested calling his b's (our β's) "net regression" although neither of these terms was subsequently used. Yule in this paper developed the theory for four or more variables using determinants. He recognized the multiple coefficient of correlation and symbolized it by R but gave it no name, although in another paper the same year he suggested calling it "coefficient of double correlation," which term is a direct ancestor of its present name. In the first article Yule stated certain limits of the partial coefficient of correlation which may be found in his *Introduction to the Theory of Statistics*. In a second article Yule appended a brief table of $1 - r^2$ and $\sqrt{1 - r^2}$.

In 1906 Yule wrote "no practical use has, we believe, been made of this coefficient of double correlation [what we call coefficient of multiple correlation] but it appears to have considerable importance, and may be regarded as indicative of the closeness of the casual connection between one variable and the joint influence of two other variables of which the first is a function." In 1907 he revised his own system of notation to what is substantially that used to-day. He then introduced the notation $b_{12.3}$ with the explanation "the first subscript gives the dependent variable, the second, the variable of which the given regression is the coefficient, and the subscripts after the period show the remaining independent variables which enter into the equation. It

is convenient to distinguish the subscripts before and after the period as 'primary' and 'secondary' subscripts respectively."

Kelley, at the suggestion of Thorndike, made use of the theory of partial correlation in predicting education success, which was published in 1914 under the title *Educational Guidance* as a Doctor's thesis. This was a forerunner of the use of this technique which is now promising to become the most powerful tool for the social sciences.

Kelley subsequently still further simplified the symbolism, first by using the symbol $r_{0.12}$ for the multiple coefficient of correlation, in place of the older R used by Yule which, as Kelley points out, already had another use assigned to it by Pearson. This use of $r_{0.12}$ makes the symbolism more self-consistent. Kelley also introduced the use of β to stand for the regression coefficient (called regression weight in this paper) where the variables are deviations from the mean values, reserving b to stand for $\beta\frac{\sigma}{\sigma}$ or the regression coefficient where the variables are gross measures. Kelley also has introduced in the same connection the use of the symbol z to stand for $\frac{x}{\sigma}$, which he calls a "standard measure," or deviations from the mean expressed in S.D. units; and the symbol $k = \sqrt{1 - r^2}$ which he calls the coefficient of alienation. Rosenow has shown a worthwhile short cut in the computation of several variables.

More recently Toops has devised a method of finding regression weights which is based on a process of determining the weight of any variable, which, when added to a composite previously assembled, will add the most to the previous multiple correlation. Toops' method is at present unpublished although it has been used in several dissertation studies in Columbia University. The best description is found in Garfiel, *Tests of Motor Ability,* Archives of Psychology, No. 62. Perhaps one should reserve comment on this method until its derivations can be studied, but when generally available, if it is valid, it should prove a boon to those who have such problems to solve.

Yule presented the first systematic method of computing partial coefficients of correlation with the aid of logarithms in 1906. In 1916 T. L. Kelley published his *Tables: To Facilitate the Calculation of Partial Coefficients of Correlation and Regression Equations.* These tables give values of the two functions:

$$\frac{1}{\sqrt{1 - r^2_{02}}\ \sqrt{1 - r^2_{12}}} \text{ and } \frac{r_{02}\ r_{12}}{\sqrt{1 - r^2_{02}}\ \sqrt{1 - r^2_{12}}}$$

which may readily be used in the equation of the partial coefficient of correlation. A third method was provided by Kelley in 1921 in his monograph, *Chart to Facilitate the Calculation of Partial Coefficients of Correlation and Regression Equations*. This chart is a nomograph or alignment chart by means of which all products, quotients, squares and square roots of $\frac{1}{\sqrt{1-r^2}}$, r_{13}, r_{23}, $\frac{1}{1-r^2}$ may be directly read by laying a ruler across the lines of the chart. A fourth method is the use of determinants. The theory of partial correlation has been worked out in determinants from the very start, but, so far as I am aware, no actual problem was computed by determinants before the work described in Chapter 2, Part III of *Psychological Examining in the United States Army*, written by Brown and May with the assistance of Professors Karl Pearson and Raymond Pearl.

Kelley's greatest contribution to the theory of partial correlation to this date will probably prove to be his method of determining the coefficient by successive approximations. In this method one makes guesses for the values of the β's and then proceeds to determine the real value of any β against the composite of all of the other assumed β's. This "real value" is a second approximation to the actual value of β and with a group of second approximation β's the process is repeated until the approximation to any degree of accuracy to the true or actual β's is reached. From the β's the partial and multiple coefficients may be easily computed by formulae already given. Dr. Kelley tells me that he is now improving upon this method by enabling one to make a more sagacious "first guess" which for problems of five variables or over will enable one to obtain the results with a minimum of labor.

Kelley's last statement as to which method is preferable is "For a three-or-four-variable problem one of the two methods here given (the direct use of formulae or the use of determinants) a method given by Yule (an orderly arrangement of solution with logarithmic computation), or a method utilizing an alignment chart devised by Kelley will prove serviceable, and for problems involving more than six variables Kelley gives a greatly abbreviated method. The determinantal solution is the most convenient for theoretical work and probably the preferred one for practical work in case of a five-or-six-variable problem."

The present job-analysis sheet has no merit in introducing short cuts or in any way abridging previous methods. Its only merit is that

it is a computation sheet which provides for an orderly arrangement of material with a minimum of preparation.

It will be instructive to indicate briefly some of the problems that have been studied by means of partial and multiple correlation and the multiple regression equations. Yule was an economist and the economists were the first to use the technique. Hooker found relationships between the weather and crops. Moore predicted the yield and price of cotton from data involving rainfall and temperature from two to four months in advance of the harvest. Ogburn has made regression equations for estimating most of the probable values in personal and household budgets.

Closely allied to this is the use made in sociology, agriculture, genetics and kindred fields. Yule investigated the causes of changes in pauperism in England. Snow estimated post-censal populations, using the multiple correlation technique. Briggs and Shantz studied the causal relations of the transpiration of plants, wind, temperature, radiation and humidity. Wright studied the causal relations of birth weights of guinea pigs, early gains in weight, size of litter, gestation period, etc. Pearl has studied the relations of the influenza death rate of 1918-1919, the normal death rate for diseases of the heart, the age constitution of the population, the sex ratio of the population and the density of the population. Miner has studied suicide with reference to climatic and other factors.

But by far the largest use of the partial correlation theory has been by educators and psychologists. Kelley was the pioneer in his study of various factors making for high school success. The Army intelligence tests were carefully analyzed by the use of partial correlations. Rosenow had previously analyzed mental functions in the same way. Wyman and Wendle have made an exhaustive study of reading ability. Higbie has studied the qualities going to make for success in farming. Toops has endeavored to predict success in trades, and has added a contribution to educational guidance. Gray has determined weights for handwriting performance. Whitney has made a study of prediction of teaching success. Allen and Clem in separate studies have endeavored to predict Latin ability. Dunn has analyzed the factors causing interest in reading in the primary grades. Reavis has determined the causes of attendance at rural schools. Cady has attempted to estimate incorrigibility. I personally know of several

studies now being made using the technique of partial correlation and the regression equation.

The job analysis chart described in this paper, although confined to three variables, can readily be used in the solution by problems involving a larger number of variables if the worker will take care in properly labeling his work. I have constructed and have in mimeographed form a chart for four variables of the same general nature as the chart herein described and will make it more generally available if demand warrants.

In closing I quote from Kelley: "If relationships are linear, if the accuracy consequent to the size of the population dealt with is appreciated, if causal relationships are not assumed, and if conclusions are not extended to populations which are not homogeneous with the sample, then there is full warrant for use of the powerful analytical devices of multiple and partial correlation."

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COLLEGE NEWS

TRUSTEES

AT a meeting of the Executive Committee of the Trustees of Teachers College on Tuesday, May 26, the following appointments were made to the Faculty of Education, to become effective from and after July 1, 1925:

Helen T. Woolley, Ph.D., as Director of the Institute of Child Welfare Research and Professor of Education.

Bess V. Cunningham, Ph.D., as Supervisor of the Educational Clinic and Assistant Professor of Education.

Milton C. DelManzo, Ph.D., as Associate in the International Institute and Assistant Professor of Education with a seat in the Faculty of Education.

SCHOOL OF PRACTICAL ARTS

About six hundred college graduates registered for major programs in various departments under the Faculty of Practical Arts during the Summer Session of 1925.

The last and eleventh senior class in the four-year curriculum, which was organized in 1911, will complete the senior year's work and be graduated in June, 1926.

The affiliation between Teachers College and the Institute of Musical Art has worked successfully from the standpoint of both institutions, and on the basis of last year's experience an improved set of regulations concerning music students has been formulated.

The new admission rules, which require a minimum of two years of study after high school, and at least two years of successful experience in teaching before matriculation for the Bachelor of Science degree, will apply to the coming college year. Experience will not be required for exceptional students in music and fine arts who wish to become candidates for the degree but not for the diploma. Hereafter, a diploma in any department in the School of Practical Arts will be given only on the basis of two years successful experience in teaching.

Professor Charles J. Martin's advanced landscape painting courses were conducted at Provincetown, Cape Cod, during June and July.

INSTITUTE OF EDUCATIONAL RESEARCH: EDUCATIONAL PSYCHOLOGY

The Institute of Educational Research, Division of Educational Psychology, has recently finished its report on the study of the nature of intelligence and units for the measurement of it. The report will be issued in the fall. A scale for measuring high levels of intellect is part of the outcome of this research which has been an important division of the work of the Institute for the past three years. An evaluation of the difficulty of several hundreds of items of test material in equal units is a feature of the findings which should be highly valuable to test makers and users.

The Institute is continuing for another year its follow-up study of prognosis for vocational fitness on the basis of test re-

sults. In 1922 one thousand boys and girls finishing the elementary schools were tested. They are being observed in their work or school to discover how valid and reliable the prediction made when they were tested has been. The results of this study, when it is finally completed, should be of interest and use to vocational and educational guidance experts, since it will be one of the most comprehensive studies in this field.

Dr. Laura Hall Kennon is undertaking certain researches for the Institute during the coming year, coöperating with the International Auxiliary Language Association.

The Character Education Inquiry, under Dr. Hugh Hartshorne and Dr. M. A. May as research associates in the Division of Educational Psychology of the Institute of Educational Research, will continue its work for the ensuing year. This section has carried, during the past year, an extensive program looking toward the formation of tests for measuring ethical traits.

INTERNATIONAL INSTITUTE OF TEACHERS COLLEGE

Professor Paul Monroe, director of the International Institute, and Professor Lester M. Wilson have returned from the Philippines after concluding a survey of the educational system of the Islands which was conducted under Professor Monroe's direction by a commission of nine members including six members of the Teachers College faculty. The Institute is making arrangements for the distribution of the report of the Survey Commission in this country.

Professor William F. Russell, associate director of the Institute, attended the Conference of the World Federation of Educational Associations, held at Edinburgh in July and served as chairman of the American delegation.

In June there appeared the *Educational Yearbook, 1924,* of the International Institute of Teachers College, Columbia University. This volume, which was edited by Professor I. L. Kandel, contains descriptive articles on the educational systems of United States, England, France, Germany, Australia, Bulgaria, Canada, China, Czechoslovakia, Italy, Norway, and South Africa and four articles on the Problem of Method in England, Germany, United States, and the New Education movement in Europe. The volume is published by the Macmillan Company.

The Institute plans the publication this semester in its International Series (Bureau of Publications, Teachers College) of the following volumes: *French Elementary Education, A Translation of the Official Regulations,* edited with an introduction by I. L. Kandel; *The New Prussian School System,* a translation of a volume by a recent Minister of Education in Prussia and of the official regulations and changes since 1918, by I. L. Kandel and Thomas Alexander; and *Education in Mexico* by Lester M. Wilson.

The following students will spend the whole or part of the present year in the study of education in foreign countries: Miss Verle F. Coppens, in Scotland; Mr. John H. Jessup, in England and Germany; and Mr. Leon Neulen, in Norway and Denmark. During part of their stay abroad they will be under the supervision of Professor Thomas Alexander, who will spend the second semester in Germany.

Professor I. L. Kandel sailed for South America at the end of August to study and report on secondary education in the Argentine Republic, Chile, Uruguay and Brazil. Professor James J. Doster, dean of the School of Education at the University of Alabama and associate of the International Institute, 1925–

26, is associated with him in this investigation.

EDUCATIONAL ADMINISTRATION

Professor George D. Strayer received the degree of Doctor of Laws from the College of William and Mary at their commencement on June 10. President Chandler in awarding the degree acknowledged Professor Strayer's leadership in the field of educational administration.

The department of educational administration organized a series of luncheons for students majoring in this field during the Summer Session. There were from 125 to 170 men present on each of these occasions. The students enjoyed the brief statements made by their fellows from different parts of the United States and from foreign countries. They were enthusiastic concerning the luncheon at which Dean Russell addressed them.

Professor Strayer spoke to a conference of supervisors of the American Telephone and Telegraph Company from various parts of the United States on September 22 concerning methods of teaching as applied to the health work undertaken by this organization.

The staff of the department has sent to press a volume of problems in educational administration which will be issued from the Bureau of Publications, Teachers College, in the very near future. This book marks a departure in teaching in the courses for superintendents of schools which have been developed during the past two years. In the introduction to the book Professor Strayer calls attention to the fact that the solution of the problems presented is supplemented by work done in the laboratory of the department and by the field work in which all students engage. This volume of problems is submitted as a tentative collection for criticism and discussion. The staff of the department of educational administration expects to issue several volumes covering the more important divisions of their field during the next two years.

Professor Strayer and Professor N. L. Engelhardt spent September 8 to 10, inclusive, in Superior, Wis., reviewing the work of a survey conducted in that city under the direction of Professors Fred Engelhardt and Leonard V. Koos of the University of Minnesota.

Professor Carter Alexander has returned to the work of the department after spending four months in the Philippine Islands as a member of the survey staff organized by the International Institute under the direction of Professor Paul Monroe. He reports a most interesting study of the administration of schools in the Philippine Islands.

The members of the department of educational administration were active in the organization of the Annual Men's Dinner held during the Summer Session.

Dr. J. R. McGaughy spent the month of June teaching and lecturing in Texas. He gave a course under the title "Administrative Research for Diagnostic Purposes" at the Southern Methodist University at Dallas, and gave the same as an extramural course from that university at the East Texas State Normal College at Commerce, Texas. From June 19 to June 23, he was the guest of the North Texas State Normal College at Denton, delivering thirteen lectures in the four days.

EDUCATIONAL PSYCHOLOGY

Dr. Edwin M. Bailor, who has been instructor in educational psychology during the past year, has accepted a position as assistant professor of psychology at

Dartmouth College next year. Dr. Bailor received his Ph.D. degree in 1924 and wrote his dissertation on *Content and Form of Tests of Intelligence.*

Professor Mary T. Whitley spent two weeks in August at Lake Winnipesaukee giving two brief courses in Child Study under the auspices of the International Summer School for Christian Leadership Training.

Professor Rudolf Pintner attended the conference of psychologists at Dartmouth called by the Laura Spelman Foundation.

Professor H. A. Ruger enjoyed a visit with Professor Godfrey Thomson in Scotland during the past summer. Dr. Ruger returns to the College this fall after a year's leave of absence. Professor Thomson, who was at Teachers College in 1923-24 as visiting professor of education, has accepted a position at the University of Edinburgh.

Mr. Ralph Beckett Spence and Mr. Goodwin B. Watson have been appointed instructors in educational psychology for 1925–26.

EDUCATIONAL SOCIOLOGY AND VOCATIONAL EDUCATION

During June Professor David Snedden lectured at the summer schools of the Northwestern State Normal School of Alva, Oklahoma, the Western State College of Colorado at Gunnison, the Washington state normal schools at Cheney, Ellensburg, and Bellingham, and the state universities at Washington and Oregon, as well as the Agricultural College at Corvallis, Oregon.

The offerings of vocational education in the Summer School included courses on the continuation school by R. L. Cooley, director of the Continuation School of Milwaukee, and by Earl W. Barnhart, specialist in commercial education of the Federal Board for Vocational Education. Mr. Barnhart has been holding a series of conferences with the leading wholesale and retail grocers of New York City. These conferences have served to arouse interest in the educational program for retail grocers being developed by the Federal Board and the National Association of Retail Grocers. This educational program is a distinct innovation in the retail field for it is intended to reach all types of grocery store employees throughout the country.

Professor Snedden is the president for this year of the National Society for the Study of Educational Sociology.

Dr. Daniel H. Kulp made the annual Memorial Address in honor of Jacob Riis at the Jacob Riis House, New York City, and offered a series of lectures to the New York City staff of the Y.W. C.A. on "Human Nature and the Development of Personality."

Dr. Kulp is publishing the contents of the courses offered as Social Science 51-52, under the title of *Outlines of the Sociology of Human Behavior, with Applications to Education, Nursing and Social Work.* This comes from the Teachers College Bureau of Publications, which also announces the publication of his book, *Country Life in South China. The Sociology of Familism.* Vol. I, Phenix Village, Kwantung. In a meeting on China in the Horace Mann auditorium D. Kulp gave an illustrated lecture on "Industrial Conditions in Shanghai."

ELEMENTARY EDUCATION

Elementary School Principals Club Teachers College, Summer Session, 1925

On Monday evening, July 20, a meeting was called of Elementary School Principals in attendance at the Summer Session at Teachers College. Mr. W. T.

Longshore (Kansas City) acted as temporary chairman. He stated that the purpose of the meeting was to bring about a means for increasing group solidarity and professional growth. After a short discussion it was decided that an organization of elementary principals was greatly needed and desired, and officers for the organization were elected. Mr. Longshore was elected president, and Mr. Arthur S. Gist (Seattle), editor of the *Fourth Year Book* of the Department of Elementary School Principals of the N. E. A., secretary. At this first meeting Mr. Longshore spoke briefly about the national organization and the summer meeting at Indianapolis; Mr. Gist had a few words to say about the *Year Books*.

At the second meeting, held on Monday evening, July 27, Dr. William H. Kilpatrick was the speaker. His subject was "The Opportunities of the Elementary School Principalship." He emphasized the need for standards and indicated that it was better for the group to set up standards for itself than that others set up those standards. He expressed satisfaction when told that a committee was already at work on that problem.

The third meeting was held on August 3. Dr. Milo B. Hillegas spoke on "What Are the Prospects of the Elementary School Principalship?" He indicated that the prospects are good, but that much depends on how well the principals grasp the present opportunities. The second speaker at this meeting was Dr. James F. Hosic. His subject was "What Is the Next Step Forward?" He recalled the rapid and substantial growth of the Department of Elementary School Principals and reviewed briefly the work of the Committee on Training for the Elementary School Principalship. He insisted that there must be scholarship and professional training.

Each of these meetings was well attended. Keen interest and enthusiasm were manifested at all of the meetings.

Professors Frank M. McMurry, Annie E. Moore and Henry Pearson were the only members of the regular staff in the field of elementary education who were absent from the Summer Session. The visiting instructors included Mr. Zenos E. Scott, superintendent of schools, Springfield, Massachusetts; Dr. Charles Russell, principal of the State Normal School, Westfield, Massachusetts; Miss Clara E. Kaps, director of primary education in the State Teachers College, Chico, California.

FOODS AND COOKERY

During the Summer Session in the course in demonstration cookery a number of native demonstrators of foreign dishes were introduced in order to give the students a more cosmopolitan idea of the art of cookery. Typical dishes were presented by representatives of the following nationalities: Italian, Japanese, Filipino, Cuban, Russian Jew, Armenian.

An exhibit of the breads of all nations purchased in New York proved interesting to the students from other parts of the country, as well as an exhibit of foreign food materials purchased by the students themselves from various quarters in New York populated largely by nationalities from other lands.

Among the visiting lecturers during the session was the Hon. Berne A. Pyrke, commissioner of Farms and Markets of the New York State Department of Farms and Markets, who addressed the marketing class on August 6. Another lecturer was Miss Gertrude Spitz, of the Family Welfare Society of Boston, who lectured on the food habits of the

various nationalities which she visits in connection with her case work.

Miss Rowena Chisholm, of the College of Domestic Economy, Melbourne, Australia, was registered in Foods and Cookery.

Miss Mary Agnes Davis, instructor in quantity cookery, has been invited to give a demonstration before the Convention of the National Restaurant Association in Detroit in October.

Mrs. David W. Clark, known to many of Teachers College alumnæ as Elizabeth Mann, was a member of the staff of Foods and Cookery during this past summer. She brought back to her work an experience enriched by her contact with problems which she has encountered in connection with her husband's work at Crow Creek Reservation, Ft. Thompson, South Dakota.

The bulletin *An Outline on the History of Cookery*, by Miss Anna Barrows and Miss Bertha E. Shapleigh, which has been widely used since 1917, has been revised by the authors and reprinted by the Bureau of Publications, Teachers College.

KINDERGARTEN—FIRST-GRADE

Professor Patty S. Hill lectured during June in Indianapolis before the Kindergarten Section of the National Education Association on the topic "Changes during the Past Twenty-five Years in the Curriculum and Methods of Kindergarten Education." She spoke in July before the Euthenic Conference conducted by the Alumnæ Association of Vassar College on "The Changing Attitude toward the Education of Young Children."

At the close of the Spring Session a temporary Association of Nursery Schools was formed with Professor Hill as chairman, who was authorized to make plans for a future meeting when permanent officers and plans for future work and affiliations will be discussed.

The supervision of the kindergarten—first-grade staff has been asked by the Church of the Intercession of New York City in the establishment of a nursery school and a kindergarten. A large clinic is being conducted there in charge of doctors, nurses, dentists, psychiatrists, and nutrition specialists, who will assist in the formation of a health program for both nursery school and kindergarten during the coming year.

The kindergarten—first-grade staff has been appointed by the superintendent of schools of Montclair, New Jersey, to serve in an advisory capacity in the construction of a new curriculum. First steps have been taken in a survey of the kindergartens of Montclair, and recommendations will be presented this fall to the Montclair kindergarten teachers.

Dr. Bessie Lee Gambrill, assistant professor of elementary education, Yale University, had charge of Summer Session courses in Research and Measurement for the Kindergarten and Primary Grades. Studies initiated in the research section included an annotated list of intelligence and achievement tests for kindergarten and primary grades, investigations related to first-grade failure and promotion, an inventory of reactions of kindergarten children symtomatic of social attitudes as a preliminary to a social maturity rating scale, and two types of curricular study.

Miss Agnes Burke and Miss Charlotte Garrison spent the past summer visiting Norway and Sweden. Miss Alice Dalgleish visited in England and on the Continent. Miss Edith Conard visited England and Ireland in June.

MUSIC EDUCATION

The extended program in music during the Summer Session met with a generous

response from the students. There were over a thousand registrations, thus involving twice as many as recorded for any preceding session. These were widely distributed, there being no course that was not carried on according to the announcement in the catalog.

The largest registrations were in the two courses in the teaching of appreciation, the four courses in methods, the course in advanced supervision, the one in song leading and community music, in conducting, and in the various phases of instrumental study. All of the teachers of applied music were kept busy; especially in piano and violin. There was also sufficient demand for the chamber music ensemble, so that three groups were formed for the study and practice of this advanced type of music. New courses which were given for the first time and which met with a warm response, were physics of music, creative music, methods of teaching theory in the high school and college, methods of teaching history, appreciation, and theory in the high school and junior high school, and the course in musical material for festivals and special occasions. The regular courses in theory of music, including conducting, were all well attended.

During the session there were five special demonstrations which were open to the public: 1) Creative music. 2) Elementary instruction in band and orchestral instruments. 3) Rote singing. 4) and 5) Two very unusual demonstrations of the orchestra work done by a group of children in the Horace Mann School who started at the opening of the Summer Session with no ensemble experience and many of them with no ability to play any instrument.

Two special meetings were held for the men of the Faculty and students in Music Education, these totaling the unusual number of sixty-five. This number gave evidence to the steady increase in the masculine element in Music Education. At the second of these dinners held at the Men's Faculty Club, Dr. Sigmund Spaeth, the well-known lecturer and author of the *Common Sense of Music* and *Barber Shop Ballads,* spoke of his ideas regarding the extension of music to adults.

Under the capable direction of Miss Helen Latham, a picnic for the students in the music department was held on the Palisades on August 7.

At the Annual Men's Dinner held at the Horace Mann School for Boys music was assigned an important place. In addition to the regular stunt songs led by Professor E. K. Fretwell, there was directed community singing of old-time favorites, led by Professor Peter W. Dykema and accompanied by a brass quartet which Mr. Jay W. Fay had recruited from the faculty and the students in his instrumental classes.

At the close of the session the students in all of the Music Education classes were invited to send in suggestions regarding the work of the summer and ideas which should be used in building up the program for next summer. A large number of helpful ideas were handed in, many of which can be utilized.

NORMAL SCHOOL EDUCATION

Professor W. C. Bagley, who has his sabbatical leave of absence for the year beginning February, 1924, spent the first half of the period in Berkeley, California, as educational director of the study of the elementary school curriculum for that state. This extensive study was undertaken by the teachers of California and was made possible by a grant from the Commonwealth Fund. Professor Bagley and his associates completed the field studies and the assembling of necessary data during the spring. A prelim-

inary report was made in May and the final report will be completed next year.

Professor Bagley left early in June to attend the World Federation of Educational Associations which met in Edinburgh. He went as one of the official delegates from the National Education Association. Professor Bagley expects to spend the remainder of his leave of absence visiting a number of the representative institutions for the preparation of teachers in leading European countries. Professor Bagley's family accompanied him to California and joined him in September for the remainder of his European travels.

Professor E. S. Evenden has been asked by Director Charles H. Judd, in behalf of the Commonwealth Fund, to serve as a member of an advisory commission to supervise the investigation of the length of the elementary curriculum. It is planned to have an extensive study made of existing elementary curricula of varying lengths, and it is hoped that some positive recommendations may be possible for the solution of this administrative problem.

Professor Thomas Alexander expects to spend the second semester of the year 1925–26, and possibly the summer period of 1926, visiting normal schools and teachers colleges in the leading European countries. He goes as a representative of the International Institute of Teachers College and, in addition to his own investigations, will have general supervision of the field work to be done by several graduate students who are going to conduct investigations in several European countries which will furnish material for Doctor's dissertations.

Mr. F. B. O'Rear, who served as an associate in the normal school department during the past year, completed his Doctor's dissertation on "The Duties of the Registrar" in May of the present year. He has returned to the Southwest Missouri State Teachers College, where he is professor of mathematics and registrar. He expects to put into practice in that institution the system of student records and reports which resulted from his study of this field.

Mr. L. B. McMullen, who served as an associate in the normal school department during the past year and as one of the instructors in the Summer Session, is completing his investigation of "The Teaching Load in Teachers Colleges and Normal Schools throughout the United States." This study was conducted in coöperation with the Committee on Standards and Surveys of the American Association of Teachers Colleges. Previous to his year's work at Teachers College Mr. McMullen served for five years as president of the State Normal School at Flagstaff, Arizona. Next year he goes to the University of Kentucky as professor of elementary education.

Mr. B. C. Harrington has served for a number of years as educational missionary at Lucknow, India. During the past year he has completed his residence and course requirements for the Doctor's degree and expects to conduct an intensive investigation of the teacher-training institutions in India for his dissertation. During the Summer Session Mr. Harrington served as an assistant in the normal school department.

Principal John A. H. Keith, of the State Normal School at Indiana, Pennsylvania, was one of the regular instructors in the normal school field at Teachers College during the past summer. Principal Keith offered a course in Introduction to Teaching and also assisted in the administrative phases of the work in the major course for administrators of normal schools and teachers colleges.

Mrs. Lalla H. Pickett, director of the Training School of the State Teachers

College at Commerce, Texas, served as an instructor during the past Summer Session, having charge of a course dealing with training school problems.

Dr. A. R. Mead, professor of education at Ohio Wesleyan University, is to serve as an exchange professor in the normal school field during the academic year 1925–1926. Professor Mead will participate in the major course and will have charge of a course dealing with the preparation of teachers for secondary schools. He also expects to spend part of his year in the completion of two or more manuscripts which he has under way.

Dr. F. R. Hamilton, who was an associate in the normal school department during the year 1923–24, has recently been elected president of the Bradley Polytechnic Institute at Peoria, Illinois.

NURSING EDUCATION

Professor Isabel M. Stewart was abroad during the summer, and was a delegate to the Congress of the International Council of Nurses, which met in Helsingfors, Finland, July 20 to 25.

Miss Nina Gage (M.A. 1925) also attended the Congress on her way home to China, where she is dean of the Hunan-Yale School of Nursing at Shagsha. Miss Gage was elected president of the International Congress of Nurses, which will hold its next meeting in China. She has recently completed the translation into Chinese of *Materia Medica and Therapeutics for Nurses,* by Linette Parker. Nursing textbooks in the Chinese language are one of the great needs in the schools there.

Miss Christine Reimann (M.A. 1925) was elected secretary of the International Council of Nurses.

Miss Christine Nuno, who was a student at Teachers College during the spring of 1925, has recently gone to Japan under the auspices of the Protestant Episcopal Board of Missions. She will work in the department of education, carrying on a program of health education with the teachers in the schools of Tokio.

Miss Gertrude Hosmer (B.S. 1925) sailed in July for Peking, China. Miss Hosmer is assisting in developing child welfare work in Peking, under the International Health Board of the Rockefeller Foundation.

Miss Nellie Hawkinson, assistant professor of nursing education at Western Reserve University, assisted in the department for the summer.

PHILOSOPHY OF EDUCATION

Professor Wm. H. Kilpatrick took part in the Y. M. C. A. conference at Estes Park, Colorado, the first week in June. Following that he went to Logan, Utah, where he gave a two weeks' course in the Utah Agricultural College. He also delivered the Commencement address at the State Teachers College, Greeley, Colorado. Professor Kilpatrick's new book, *The Foundations of Method,* came out in June, from the press of Macmillan.

SECONDARY EDUCATION

Professor Thomas H. Briggs has become a member at large of the National Committee on Research in Secondary Education, which met at the call of the United States Commissioner of Education in June. He is also a member of the sub-committee on Urban High Schools, of which Dr. William A. Wetzel is chairman. The organization meeting was attended by Mr. John Rufi, who was appointed to the sub-committee on Rural High Schools.

In June Professor Briggs spent two weeks lecturing on phases of secondary

education at State Teachers Colleges of Weatherford, Durant, and Tahlequah, Oklahoma.

In the newly organized Police Academy of New York, Professor Elbert K. Fretwell, in coöperation with Mr. William H. Edwards and the commandant of the Academy, Inspector John J. Noonan, has been working on the improvement in methods of instruction of policemen by the police instructors in this academy. All of the newly appointed policemen of New York City automatically become students of the school, which now has an enrollment of three hundred police students in this pioneer course of three months.

Professor F. W. Johnson's new book on *Administration and Supervision of the High School* was published by Ginn & Company during the summer.

During June Professor Fretwell presented the problems involved in the organization of extra-curricular activities through lectures at the State Teachers College at Macomb, Illinois; the Teachers College at Kansas City, Missouri; and the Teachers College at Kearney, Nebraska. He discussed the same subject in a commencement address at Senn High School in Chicago.

A new course entitled Directing the Study of High School Pupils will be given on Saturdays during the Winter Session by Miss Maxie N. Woodring. It will include an analysis of study habits; the learning process and problem solving as related to study; the relation of the recitation and the assignment to study; use of the library. Miss Woodring will give special attention to the problems of study peculiar to the several high school subjects. The class will be organized into study groups for practice in directing and supervising study.

Miss Woodring is assisting in the course for normal school instructors in the organization and supervision of student teaching. She is taking charge of training school problems in the field of secondary education.

Mr. John Rufi, who has been assisting Professor Briggs for two years, has accepted a position as associate professor of education in the Michigan State College at Lansing, where he will give courses in high school administration and methods.

By appointment of Mr. James J. Starrow, Professor Fretwell has become vice-chairman of the National Committee of Education of the Boy Scouts, to work out with the chairman of the committee, Mr. John H. Finley, a still further constructive program in training scout executives and scoutmasters.

Miss Edith M. Penney, instructor in high school journalism during the Summer Session, has been appointed teacher of English and director of extra-curricular activities in the high school at Bronxville, New York.

TEXTILES AND CLOTHING

During the Summer Session Miss Evangeline Roberts of Bonwit Teller and Company, gave a talk on "The Influence of Historic Costume in Modern Dress," illustrated by thirty-eight dolls dressed in period costume, and also by manikins wearing modern dresses made in the studios of the company. Much interest was manifested by teachers of history and geography as well as by teachers of design. The dolls were exhibited for several days in Dodge Hall, where a constant stream of visitors made a study of them.

Miss Agnes Boeing, educational director of Cheney Brothers, silk manufacturers, also gave an interesting talk before the summer students. Her topic was "Fall Fashions in Silks," and she illustrated her talk with many examples

of silks, the design and color of which were very lovely. Miss Boeing is doing valuable educational work in connection with this firm.

Mr. Walter Humphreys, secretary of the American Woolen Manufacturers Association, addressed the students in textiles and clothing on the subject, "Branding Legislation."

Mr. Frank Fagan, of W. J. Sloane and Company, talked to the students of the textile section on the subject, "Buying Carpets and Rugs."

The students had the opportunity of visiting mills and museums throughout their various courses, and a series of lessons on the handling of sewing machines was given through the courtesy of the Singer Manufacturing Company.

Textiles and Clothing plans a series of similar lectures and demonstrations throughout the Fall and Winter Sessions.

LINCOLN SCHOOL

New members of the Lincoln School staff for the year 1925–26 are: Ethel Bliss, assistant elementary grades; Joseph Butterweck, assistant in research; John M. Coulter, associate in research (part time); Helen Fern Daranger, literature and composition; Verna B. Flanders, geography; Gertrude Hildreth, associate in educational psychology; Clorinda B. Ramsey, French; F. A. Riedel, assistant in research; and Josephine Swift, fine arts.

During the summer the following members of the staff gave instruction in Teachers College: Messrs. Charles W. Finley, John R. Clark, Arthur D. Whitman, Earl R. Glenn, Holland R. Sperry, W. C. Gorham, and Misses Vera Sanford and Mary E. Barry.

Also, Mr. James S. Tippett taught at the University of Georgia; Miss Martha Groggle at the University of Wisconsin; Mr. Gordon Mirick at Emory University.

The following members of the School staff spent the summer in study and travel in Europe: Miss Caroline Zachry, Miss Katharine Keelor, Miss Emily Barnes, Miss Margaret Holz, Dr. Daniel C. Knowlton, and Mr. Charles M. Kinney.

Mr. Hughes Mearns' new book, *Creative Youth,* published by Doubleday, Page and Company, sets forth the procedure employed by him in his work in teaching literature, and presents many illustrations of pupils' writings. Dr. D. C. Knowlton's book entitled *Graphic History,* published by Chas. Scribner's Sons, consists of pupils' cartoons, drawings and graphs designed to illustrate their interpretation of significant things in their studies of history. Many of the illustrations are in colors. There are abundant explanatory notes.

Dr. John M. Coulter, head of the department of botany of the University of Chicago, since the organization of the department, formerly president of Lake Forest University and preceding that president of Indiana University, eminent botanist, teacher, student, author, editor and counselor in numerous scientific committees and societies, is discontinuing active headship of the department of botany at the University of Chicago at the close of this academic year.

During the present year Dr. Coulter has been assembling materials for a proposed volume upon *American Men of Science.* This volume is designed for collateral reading by science students in secondary schools and elsewhere. It is being developed in connection with the program of work of the Lincoln School of Teachers College, of whose staff Dr. Coulter will be a member during 1925–1926.

During the next year, Dr. Coulter will reside in Yonkers, and in addition to the above work in the Lincoln School, he will act also as general adviser in the work of the Boyce Thompson Institute for Plant Research.

STUDENT ORGANIZATIONS

Miss Katherine I. Sherwin (B.S. 1919) took up her work as executive secretary of Student Organizations on July 1. For the past two years she has been assistant to the director of the Bureau of Educational Service in charge of placements in various fields. In her new position, Miss Sherwin will direct the work of centralizing the administrative end of the twenty-eight professional, social and religious organizations. She will also devote a part of her time to the work of the Alumni Association.

ALUMNI ACTIVITIES

THE TEACHERS COLLEGE ALUMNI ASSOCIATION
OFFICERS

President: Mr. ZENOS SCOTT, Superintendent of Schools, Springfield, Mass.

First Vice-President: Dr. FANNIE W. DUNN, Assistant Professor of Education, Teachers College.

Second Vice-President: Dr. BESSIE LEE GAMBRILL, Professor of Education, Yale University, New Haven, Conn.

Recording Secretary: Miss AGNES BURKE, Instructor, Kindergarten Education, Teachers College.

Corresponding Secretary: Mrs. EDITH SWAN MOREY, Camp Hill, Pa.

Treasurer: Dr. R. G. REYNOLDS, Director, Bureau of Educational Service, Teachers College.

Members-at-Large: Mr. FRANK PICKELL, Superintendent of Schools, Montclair, N. J.

Miss ANNIE GRACE, 300 Park Avenue, Baltimore, Md.

Miss MARION SHERIDAN, 711 Orange Street, New Haven, Conn.

Alumni Trustees: Dr. EDWIN C. BROOME, Superintendent of Schools, Philadelphia, Pa.

Miss MERCY J. HAYES, 1063 Beaconfield, Grosse Pointe Park, Detroit, Mich.

Alumni Office: Russell Hall, Teachers College, 525 West 120th Street, New York City.

Address all communications to Rollo G. Reynolds,
Field Secretary, Teachers College, New York City.

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Miss Clara Barker
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Miss Annie B. McSkimmon
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Bangor, Me.

BATTLE CREEK, MICHIGAN
Mrs. D. R. Dudley
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Battle Creek, Mich.

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BUFFALO, NEW YORK
Miss Agnes McCarthy
Technical High School
Buffalo, N. Y.

CALIFORNIA
Miss Ethel L. Salisbury
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CHINA (EASTERN)
Miss Nina M. Stallings
Soochow, Ku, China

CINCINNATI, OHIO
Mr. E. D. Roberts
Asst. Superintendent of Schools
Denton Bldg.
Cincinnati, O.

CLASS OF 1918
Miss Helen Mildred Owen
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CLASS OF 1921
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CLEVELAND, OHIO
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Miss Elizabeth Pfeiffer
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Erie, Pa.

GEORGIA
Mr. A. J. Hargrove
Zebulon, Ga.

HARRISBURG, PENNSYLVANIA
Mr. H. L. Holbrook
State Department of Education
Harrisburg, Pa.

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Miss Geraldine Hadley
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KENT, OHIO
Miss Isabelle Hazen
Franklin Apartments
Kent, O.

KANSAS CITY, MISSOURI
Miss Jessie McKay
3517 Charlotte Street
Kansas City, Mo.

MACON, GEORGIA
Miss Mamie W. Jones
117 Corbin Avenue
Macon, Ga.

MAINE
Miss Mary Louise Hastings
State Normal School
Gorham, Me.

MASSACHUSETTS
Mrs. E. T. Newall
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Medford, Mass.

MARYLAND
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State University
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NORTH CAROLINA
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111 Steele Street
High Point, N. C.

NORTHERN MICHIGAN
Mr. Sidney Herring
401 North Front Street
Marquette, Mich.

OKLAHOMA
Miss Florence I. Evans
University of Oklahoma
Norman, Okla.

PHILADELPHIA
Miss Erma L. Ferguson
Temple University
Philadelphia, Pa.

PHILIPPINE ISLANDS
Mr. Sabino Taburnor
Bureau of Education
Division of Bataugas, P. I.

SOUTH AFRICA
Dr. E. G. Malherbe
University of Cape Town
Cape Town, S. A.

SOUTH BEND, INDIANA
Miss Mamie E. Kerner
115 North William Street
South Bend, Ind.

TOLEDO, OHIO
Miss Florence Boughner
Indiana School
Toledo, O.

VERMONT
Miss Mary B. Sullivan
Normal School
Castleton, Vt.

VIRGINIA
Mr. C. B. Givens
4010 West Street
Richmond, Va.

WEST VIRGINIA
Miss Wilma C. Speare
Marshall College
Huntington, W. Va.

WISCONSIN
Mr. W. W. Brown
631 Monroe Street
Janesville, Wis.

ANN ARBOR CLUB

The officers of the Ann Arbor, Michigan, Teachers College Club for the year 1925–26 are: President, Miss Zelma Clark, Martha Cook Building. Vice-president: Miss Pearl McDonald, 205 South State Street. Secretary, Miss Ethyl M. Neelands, 1111 Forest Street. Treasurer, Miss Edith Bader, 1215 Hill Street.

AKRON CLUB

Covers were laid for seventy-five members of the Akron Teachers College Club at a dinner held in connection with their annual spring meeting at the University Club. After the dinner, Superintendent Carroll R. Reed, of the Akron Schools, introduced Dr. Milo B. Hillegas, the guest of honor from Teachers College, who gave a very inspiring talk. During the evening Mr. Harry Chalmers, a prominent harpist of Akron, played several selections. Teachers College songs were sung, and copies of the constitution of the club were given to the members. After the entertainment, an informal reception was held.

The officers of the club are: President, Miss Harriet Collow. Secretary, Miss Lena Johnson. Treasurer, Miss Clara Barker.

CONNECTICUT CLUB

The New Haven group of members of the Teachers College Club of Connecticut had a delightfully informal meeting at Nathan Smith Hall, the dormitory of the Yale School of Nursing, on Wednesday evening, May 13. Dr. Annie W. Goodrich, dean of the Yale School of Nursing, presided.

Various members of the club gave interesting accounts of the work they are

doing. Miss Genevieve Leary, teacher of science and the principles of education at the State Normal School, gave an account of her experience in running a training school for a day with a staff of normal school students. The Misses Farwell and Waite told of an investigation of the failures of first-grade children that is being carried on at Yale University. This comprises an intensive study of selected public schools in New Haven and out-of-town schools which are coöperating. Miss Marion Sattewhite told of the plans for a very comprehensive art course at the Normal School. Mrs. Douden, Miss Rossiter, and Miss Effie Taylor told of the work of coördination in the Yale School of Nursing.

Refreshments were served following the meeting.

KENT, OHIO, CLUB

The charter members of the Kent State Teachers College branch of the Alumni Association of Teachers College are nine in number. They are all graduates of Teachers College and regular members of the faculty of Kent State Teachers College. It is the purpose of the club to invite graduates of Teachers College from the Kent public schools and other nearby cities to meet with them on special occasions. Informal talks were made at the organization meeting and all present agreed that the club should bring the work of Teachers College to the notice of the graduates of their institution. It is also their purpose to invite members of the Faculty of Teachers College to address them when it is possible for them to do so.

The officers of the club are: President, Mr. Lester S. Irvins. Secretary-Treasurer, Miss Isabelle Hazen.

CLASS OF 1918

Corresponding Secretary: Helen Mildred Owen, 514-516 Cutler Building, Rochester, N. Y.

Helen A. Landreth is on the editorial staff of *Collier's Weekly* and writes enthusiastically of her work: "We have a page in the back of the book called 'What's On Your Mind?' That's quite a lot, according to the mail, and I pull out the letters I like and put them on the page. And I read articles. On my good days I write editorials. One was copied in some newspaper in the South. I have lots to learn about this business, but at least I feel like a round peg in the right hole."

Catharine L. Maltby was married December 27, 1921, to Thomas Blaisdell, Jr. She lives in Peking, China, where she is doing educational work.

Dora Roble has been county agent in Herkimer County, New York, under the State Charities Aid Association. Since February she has been director of social work in Cattaraugus County in connection with the Public Health Demonstration.

Marjorie Helen Sime was married September 23, 1922 to Arthur C. Watkins. They are living in Cleveland, Ohio.

Florence Stewart is teaching science and nutrition at Pine Manor, Wellesley, Massachusetts.

Ethel L. Troy has been doing Y. W. C. A. work since 1919. At present she is general secretary of the Y. W. C. A. at Ashtabula, Ohio.

Elsie M. Van Volkenburgh was married January 20, 1921 to John H. Smith. They have one daughter, Priscilla Lucille, who is three and a half years old. Their home is in Rochester, Pennsylvania.

Esther Watson taught physical education in Southold, Long Island, for two

years. In 1923 she received her M.S. degree from Massachusetts Agricultural College. On January 8, 1922, she married Albert N. Tipple. Their daughter, Mary MacDough, was born March 27, 1924. Their home is in Terre Haute, Indiana.

Anna R. Weber was draftsman for the New York Telephone Company from 1918 to 1922. She was married to H. J. Becker on March 23, 1922. Their daughter, Beatrice Anne, is two years old. Their home is in Jersey City.

WHAT TEACHERS COLLEGE IS DOING FOR SOUTH AFRICA

Letter from E. G. Malherbe, Secretary-Treasurer of Teachers College Club of South Africa

"May 7, 1925.

"The Teachers College family in South Africa numbers about thirty members. Dean Russell—in a sense the father of that family—has in a letter to us expressed the very strong desire to learn of our doings on this side of the globe. We, therefore, planned a get-together at which each one was to tell exactly how Teachers College had helped him to do his South African job better. At that gathering a regular Teachers College Club was constituted with Dr. C. T. Loram of the Native Affairs Commission, Pretoria, as chairman, and Dr. E. G. Malherbe of Cape Town University as secretary-treasurer.

"To have heard the hearty talks at that gathering and the cheery messages from those who could not be present would have done your heart good. Limited space, however, permits only a few lines concerning each member.

"Dr. Loram told us how, on his return to South Africa after eighteen months at Teachers College—to him a period of stimulating and wise instruction—he was placed in charge of Native Education in Natal. His first step was a typical Teachers College move. He arranged a 'get-together' for representatives of all sections engaged in Native Education. He ran two vacation courses for teachers in service, and tried to inspire them with self-confidence and faith in the greatness of their task.

" 'I lectured,' said he, 'like Thorndike (though I failed to catch his merry laugh) and Dewey (though my socks were not odd ones and my tie was straight). I talked like Kilpatrick (but missed his skill at the Dewey diagrams), and like Bonser (but without his great charm and wisdom), and I practised McMurry (but without his tantalising argumentativeness), and like Strayer (though I did *not* recite "The Daffodils"). I got the group to read and study T.C.-ism and the real victory was won at the first blow. The walls of traditionalism and hide-bound conservatism fell at the first blast of the Teachers College trumpet.'

"He then went on to tell us how he tried to reform the methods of school reporting; how he learned to know the value of parent participation in furthering the interests of the school for the good of the community. Formerly parents had been to him merely those persons who produced the children and school fees, and interfered unnecessarily with teachers. As a result of those wonderful lectures of Monroe he succeeded in teaching the natives to be proud of their own primitive educational system. In short, he attributed most of his zeal as well as his success in Native Affairs to the fact that he had imbibed at Teachers College the fundamental doctrine of service in its best and most altruistic form.

"This latter point was also specially stressed in their addresses by Dr. and Mrs. Boehmke, who stand at the head of

the Normal College at Oudtshoorn. Dr. Boehmke dwelt further upon the fact that as a result of his work at Teachers College he was enabled to train teachers better for the rural areas of South Africa.

"Dr. J. R. Malan has done some excellent pioneer work in rural education in an outlying district of this country by kindling a community interest in the school work in true Carney style. He is now training rural teachers at the Graaff-Reinet Training College. 'An enlarged vision, a better professional spirit, and an increased knowledge of educational problems previously unthought of, these are some of the many good things that I carried home with me from Teachers College. . . .'

"Mr. F. E. de Villeirs, principal of the Secondary School at Steynsburg, Cape Province, testified: 'The Teachers College spirit has imbued me with genuine interest and joy in my South African work, has transformed it into a veritable hobby, and thus made it fruitful of better results.' The 'results' that he refers to have been a singularly successful experiment in the project method on a large scale, in which the whole school published a book containing a continuous story of the town, Paarl, in all its phases.

" 'Teachers College will always stand for me as *a way of thinking,*' was the testimony of Mr. Jack Pauw of the Volks High School, Potchefstroom. 'It was not so much a gain in the bulk of knowledge as in the *method* thereof that Teachers College influenced me. The healthy ideal of a truly functioning education has remained and grown. So much and more did Teachers College give me.'

"Dr. Anna Aucamp, of the Normal College, Pretoria, said: 'Perhaps the greatest ideal I carried away with me was that of Teachers College as a centre of community life with its great ideal of social service. In South Africa where racial problems are difficult to solve, the example of America's effort in blending together various foreign nationalities into one strong nation can teach us much.'

" 'Teachers College has given me a new professional outlook, definite standards in connection with teacher-training work and supervision of instruction, and lastly, under the inspirational genius of Thorndike, I have learned to look upon educational psychology as an exact science, with endless possibilities for future research.' This was the testimony of Dr. E. G. Malherbe, of the faculty of education Cape Town University.

"Mrs. Malherbe expressed warm appreciation of the practical arts work at Teachers College, and told how it had helped her to look on home-making as a beautiful art. This knowledge was now helping in her business (that of housewife), and was also enabling her to disseminate fresh ideas among her neighbors.

"Mr. Douglas MacCrone, of the psychology department of the Witwatersrand University, Johannesburg, also emphasized the invaluable contribution that Teachers College has made towards the scientific study of education. At present he is engaged on a comprehensive undertaking to standardize group intelligence tests both in Afrikaans and in English, for the use of South African children.

"Among the members who could not be present at our meeting, but who sent messages, were: Dr. Wouter de Vos Malan, principal of the high school, Ceres; Miss Jessie Davidtsz, demonstrator and lecturer in home economics for the Union Government Department of Agriculture; Miss Ria Fouche, supervisor in domestic science for the department of education, Cape Province; Mr. and Mrs. D. D. Malan, high school,

Porterville; Miss Frances de Wet, lecturer in education, Huguenot University College, Wellington; Miss Sarah Deas, principal of the high school, Worcester; Mr. W. M. de Villiers, Training College, Heidelberg; Mr. C. H. Steyn, principal of the high school, Lichtenburg; Miss May Meintjies, demonstrator for the Transvaal Home Industries Association; Mr. Johan Van Gass, principal, Industrial School, Bloemfontein; Mr. Eric Maartens, Grey College School, Bloemfontein.

"Thus ended the first Teachers College Alumni meeting held in South Africa. It has begun in a small way, but there is hope, enthusiasm, and a belief in our mission. We have united as a small, but strong body in order to disseminate the fundamental doctrines of the Teachers College religion throughout the length and breadth of this vast country of ours."

NEW BOOKS BY ALUMNI

Two new books by graduates of Teachers College have recently been published. *In Storyland* (Silver Burdette), and *Guessing the Geese in the Goose* Family (Doubleday Page) are the titles. The joint authors are Miss Margaret Wells, Teachers College (Ph.D. 1921) and Miss H. Mary Cushman, Teachers College (B.S. 1907).

The Conflict, a Health Masque in Pantomime, by Gertrude K. Colby, assistant professor of physical education, Teachers College. Published by A. S. Barnes & Co.

Clog and Character Dances Outlined, by Helen Frost, formerly instructor of physical education, Teachers College. Published by A. S. Barnes & Co.

The Teaching of the Social Studies in the Maryland High Schools, by E. Clarke Fountaine, district supervisor of high schools, Maryland.

Curriculum Studies in the Second Grade, for the Lincoln School, by Katharine Keelor. Published by the Bureau of Publications, Teachers College.

Our Playhouse, an industrial reader for lower grades, by Ella Victoria Dobbs. Published by Rand McNally Company.

DR. WELLS TO HEAD BROOKSIDE SCHOOL

Dr. Margaret Elizabeth Wells has been appointed director of the Brookside School, Montclair, New Jersey. Miss Wells received the degree of Doctor of Philosophy at Teachers College in 1921. She has resigned as professor of education at the State Normal School in Trenton, New Jersey, to accept the directorship of the Brookside School.

The Brookside School, which is a cooperative, non-profit making corporation, is managed by a board of trustees selected from the parents of the pupils. It is a school of the modern experimental type, offering a curriculum on the project basis. Dr. Wells has long been a student of this new type of school. Her dissertation, *A Project Curriculum Dealing with the Project as a Means of Organizing the Curriculum of the Elementary School,* is an exhaustive study in this field.

MISS AYER, DIRECTOR OF TRAINING AT MILWAUKEE NORMAL SCHOOL

Miss Adelaide Ayer has recently been appointed director of training at Milwaukee Normal School, Milwaukee, Wisconsin. She received both her Bachelor's and Master's degrees from Teachers College and has recently completed the requirements for the Ph.D. degree. Miss Ayer was state supervisor in Montana from 1917 to 1923 and has spent the two years since then in further study at Teachers College.

MISS MORRIS, PRINCIPAL OF SCRANTON COUNTRY DAY SCHOOL

Miss Zella H. Morris, formerly supervisor in the State Normal School at Ellensburg, Washington, and later in the Public Schools at Flint, Michigan, has been appointed principal of the Scranton Country Day School, Scranton, Pennsylvania. Miss Morris received her B.S. degree from Teachers College in 1915 and her M.A. degree in 1925.

MISS PORTER GOES TO HAMPTON INSTITUTE

Miss Caroline J. Porter, well known to so many alumni because of her work as assistant welfare director at Teachers College and especially through her connection with the Graduate Club, goes to Hampton Institute, Hampton, Virginia, as dean of women. Miss Porter received her M.A. from Teachers College in 1919.

JOHN RUFI GOES TO MICHIGAN

Mr. John Rufi has accepted the position as associate professor of secondary education at the Michigan State College of Agriculture and Applied Science, East Lansing, Michigan. Mr. Rufi was for three years high school principal at Ironwood, Michigan. He has taught in the summer session at Teachers College for several years. Mr. Rufi received his Master's degree from Teachers College in 1921 and during the past year has completed his requirements for the Ph.D. degree.

MISS JULIA HURD TO BE AT UNIVERSITY OF KENTUCKY

Miss Julia Hurd, who received the M.A. degree from Teachers College in 1917, will go to the University of Kentucky as professor of teacher training in home economics. Miss Hurd has been state supervisor of home economics and teacher of methods at the University of Vermont, and teacher of home economics methods and later acting vice-dean at Iowa State Teachers College at Ames. The past year she has been continuing her study at Teachers College.

ARTHUR K. LOOMIS GOES TO DENVER

Mr. Arthur K. Loomis, formerly superintendent of schools at Wellington and then at Hiawatha, Kansas, has become director of the curriculum department in the Public Schools of Denver, Colorado. Mr. Loomis received his Master's degree from the University of Kansas in 1917, and has recently completed his requirements for the degree of Doctor of Philosophy at Teachers College.

NED DEARBORN WITH NEW YORK STATE DEPARTMENT

Mr. Ned H. Dearborn is to be state director of teacher training in New York State with headquarters at Albany. His work will be of a supervisory nature. Mr. Dearborn received both the B.S. and the M.A. degrees from Teachers College and during the past year has completed all the requirements for the Ph.D. degree. He has had experience as principal both of an elementary and high school, as superintendent of schools, as director of training at the State Normal, Oswego, New York, and in educational research with the Commonwealth Fund of New York.

HERMANN COOPER, HEAD OF DEPARTMENT OF EDUCATION AT GENESEO

Mr. Hermann Cooper has accepted an appointment as head of the department of education at the State Normal

School, Geneseo, New York. Mr. Cooper assisted with the surveys of the public schools of Baltimore, Maryland, and of Watertown, New York. For over two years he conducted research studies in the field of rural school attendance and educational finance in Delaware. He has completed the requirements for the Ph.D. degree at Teachers College.

HELEN MAYS GOES TO NEAR EAST

Miss Helen Mays sailed in July for Alexandropol, Russian Armenia, where she has a two-year appointment as recreational director in a large orphanage. Her chief responsibility will be to teach the children in this tiny republic how to play.

ALUMNI NEWS

Professor Fletcher Harper Swift (Ph. D. 1905), of the College of Education of the University of Minnesota, has accepted an appointment as professor of education at the University of California, Berkeley. During the present year Professor Swift, on leave of absence from the University of Minnesota, has been visiting professor of education in the department of educational administration at Teachers College, Columbia University. He has also been offering courses in School Administration at the University of Pennsylvania.

Ida Stevens Robinson (student, 1921–22) is promoting a new program of Religious Education through a three-session church school program at the Missions and Daily Vacation Bible Schools of the Ocean County Sunday School Association, Lakewood, New Jersey.

Yetta Shoninger (M.A. 1920) gave a course in Principles of Elementary Education and one in Recent Studies in Curriculum Making at the 1925 Summer School of the University of California, Southern Branch, Los Angeles, California.

Mary Johanna Kadel (Summer Session, 1922) is a teacher of special or opportunity classes in the public schools, Terre Haute, Indiana.

Elizabeth Tuttle (student, 1910–13) died on April 10, 1925, at her home in Sayerville, New Jersey.

Marian Barnett (B.S. 1921) was married to Jerome Rothschild on September 6, 1923. From 1921–1923 she did research work on rickets at the College of Physicians and Surgeons, New York.

Leon Taggart (B.S. 1909) and Florence Matteson (B.S. 1919) took part in the Northern New York State Teachers Conference at Potsdam, New York.

Pauline Peters (M.A. 1921) was one of the speakers at the Southern Zone Conference of the New York State Teachers Association.

Anna Love (B.S. 1917) and Emiline Corbin (B.S. 1921) are teaching at the Oneonta State Normal.

Katherine H. Tobey (M.A. 1908) carried on extramural work among the rural teachers at Margaretsville last spring. During the summer she studied at Oxford, England.

Grace Fulmer (B.S. 1921) reports that her school has been fully accredited by the State of California. There were thirty-five young women in the kindergarten-primary education department last year.

Harry C. McKown (M.A. 1922), department of education, University of Pittsburgh, has published his dissertation entitled: *The Trend of College Entrance Requirements, 1913–22* as Bulletin No. 35, 1924, of the Bureau of Education, Washington, D. C.

Ruth Andrus (Ph.D. 1924), clinic director of the Monmouth County, New

Jersey, Child Guidance Clinic, is helping in the establishment of habit clinics for children up to seven years of age in connection with child welfare clinics.

William T. Melchior (Ph.D. 1923), professor of education at St. Lawrence University, Canton, New York, attended the World Federation of Education Associations held at Edinburgh, Scotland, the past summer.

Anne Washington Raynor (M.A. 1920) is head of the modern language department at Trinity University, Waxahachie, Texas.

E. E. Donohugh (B.S. 1919) has returned from Ghaziabas, United Provinces, India, on one year furlough. Mr. Donohugh has spent five years in village education work in India.

Marjorie B. Forchemer (B.S. 1921) is associate instructor in the physical education department, University of California, Southern Branch, Los Angeles, California.

Mabel H. Wells (B.S. 1924) taught fine and industrial arts in the 1925 Summer Session at the University of North Carolina.

Robert St. Clair (B.S. 1924) offered administrative courses in Harris Teachers College, St. Louis, for the six-weeks term ending July 24, 1925. At present he is principal of Benton School, St. Louis, Missouri.

Loraine G. Dennhardt (B.S. 1924) left her position as educational director of Nursing Schools of Bellevue and Allied Hospitals on June 15 to go to Rio de Janeiro as superintendent of nurses and director of the School of Nursing in the Hospital of Sao Francisco de Assis under the International Health Board of the Rockefeller Foundation.

A. D. Montgomery (M.A. 1925) has been re-elected superintendent of the Sullivan, Indiana, city schools. He was president of the "Three I" Club at Columbia University during the 1925 Summer Session.

V. H. Barker (Summer Session, 1923) was recently elected principal of Hillsboro Community High School, Hillsboro, Illinois.

Mrs. Barbara H. Bartlett (M.A. 1922) is professor of public health nursing at the University of Michigan, Ann Arbor, Michigan.

Miss Zelma E. Clark (M.A. 1922) is director of the Martha Cook Building, Ann Arbor, Michigan.

G. Robert Koopman (Summer Session, 1923–24), superintendent of schools, Vicksburg, Michigan, is starting a coöperative curriculum revision project for 1925–26.

Homer E. Cooper (Ph.D. 1924), dean of the Eastern Kentucky State Teachers College and Normal School, Richmond, Kentucky, was asked by the State Department of Education of Kentucky to prepare a course of study in arithmetic for the state. He is now leading a group of teachers in the preparation of this course.

Gertrude Helen Huen (B.S. 1924) is engaged in public health nursing for the Association for Improving the Condition of the Poor, New York City.

Elisabeth B. Renshaw (B.S. 1924) and Rae Keller (B.S. 1924) are in charge of the physical education and hygiene work, respectively, in the new North Scranton, Pennsylvania, Junior High School.

Fred A. Pennington (M.A. 1924) is teaching social science in the city schools of Des Moines, Iowa.

Mr. Julius E. Warren (M.A. 1915) has been appointed assistant superintendent of schools at Springfield, Massachusetts. He was formerly superintendent of schools at Gloversville, New York.

Jessie Broadhurst (B.S. 1925) has returned to her position as superintendent

of Hospital and Training School, at the Broad Street Hospital, Oneida, New York, after a year's study at Teachers College.

Myrtle G. Temple (Summer Session, 1921–24) is an instructor in household arts at the high school and the continuation school of North Adams, Massachusetts.

Maurice N. O'Bannon (M.A. 1925) is now superintendent of schools at Mount Vernon, Indiana. For the past four years he has been superintendent at Mooresville, Indiana.

Will French (M.A. 1923) was elected principal of the Lincoln, Nebraska, high school beginning August 15, 1925. He taught again last summer in the department of secondary education in the Summer Session of the University of California, Southern Branch. He also gave two junior high school education courses.

E. B. Luce (B.S. 1912; M.A. 1913) has been educational director of the Consolidated Gas, Electric Light and Power Company of Baltimore since May 12, 1924. Mr. Luce is developing in Baltimore what is known as "The Baltimore Plan of Industrial Education, a plan in contrast to the well known 'Cincinnati Plan'." During the past year, articles setting forth the details and methods have appeared in the *American Gas Association Monthly, The Gas Age-Record,* the *Electrical Record,* all published in New York; and the *Baltimore Gas and Electric News,* published in Baltimore.

W. C. Reudiger (Ph.D. 1907), dean of the Teachers College of George Washington University, Washington, D. C., taught in the University of Southern California the past summer.

Clarence Linton (M.A. 1924), supervising principal of schools, Lawrenceville, New Jersey, took up his duties as secretary of Teachers College, Columbia University, on July 1, 1925.

Henrietta Silliman (M.A. 1924) is principal of the Toulon, Illinois, Township High School. She spent the summer of 1925 travelling in the Scandinavian countries.

Martha M. Russell (Special student nursing education, 1924), has been appointed acting superintendent of the Colorado General Hospital, Denver, Colorado.

Myron C. Hamer (Summer Session, 1923, 1924) was elected vice-president of the Franklin County Teachers Association for 1924–25. He was vice-president of the Maine, Columbia University, Club, 1924–25.

J. H. Clement (M.A. 1923) gave two courses in education at Washington University, St. Louis, the past summer.

Lou A. Shepherd (M.A. 1924) will continue as primary specialist in the Extension Department of Iowa State Teachers College, Cedar Falls, Iowa. The past summer she taught in the summer school at Davenport, Iowa.

Naomi McS. Voegele (M.A. 1923) has been re-elected professor of home economics at the Woman's College, Montgomery, Alabama, for 1925–26.

Ella Victoria Dobbs (M.A. 1913) was elected president of the Missouri State Teachers Association, at the tenth anniversary of the National Council of Primary Education held at Cincinnati, Miss Dobbs was presented with life membership in the N. E. A. as a token of appreciation by Council members, whom she has served as chairman for ten years.

Miss Lucy Gage (B.S. 1922), of Nashville, Tennessee, has been elected chairman of the National Council of Primary Education for the next three-year period.

[*These Notes will be continued in the October number. In that number will also appear recent Alumni appointments.*]